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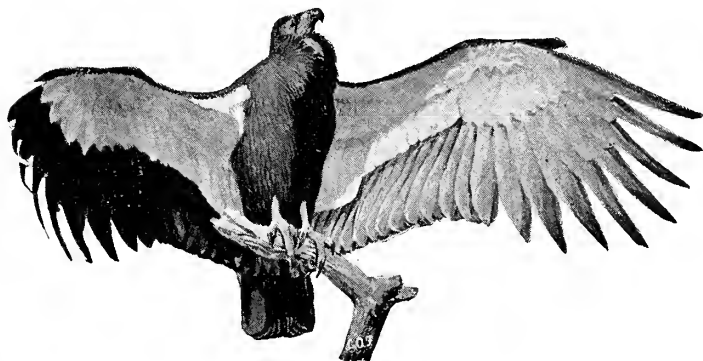
THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



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THE CONDOR

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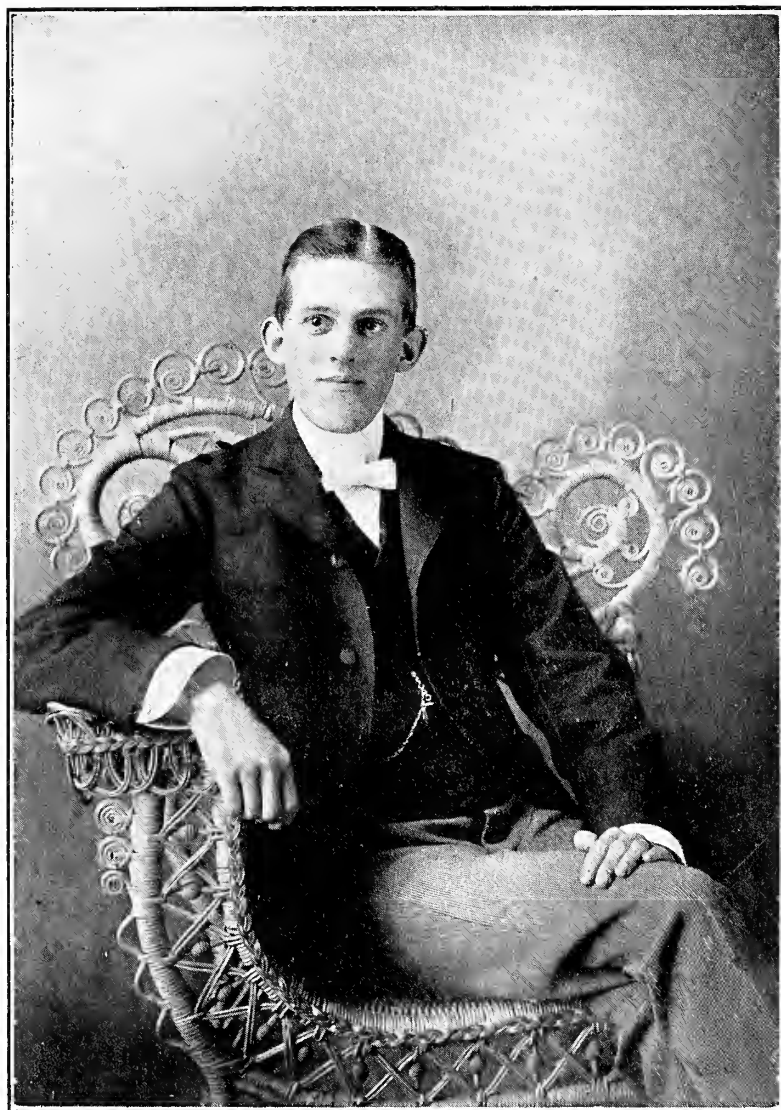
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PALO ALTO, CALIFORNIA.





CHESTER BARLOW.

Died November 9, 1902.

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume V

January-February, 1903

Number 1

IN MEMORIAM:

Chester Barlow.

BY HENRY REED TAYLOR.

WORDS cannot tell, and the pen falters as a thing which is feeble and futile in an effort to express all that is comprehended in the simple words, "Barlow is gone."

If to live nobly life's allotted span, doing each day one's best in all things; turning aside from no task in the line of duty until it be accomplished; joyously and unselfishly striving until the end, in order that others might be benefited and share the full measure of happiness found in a true interpretation of Nature's manifold charms—if these and other lovable attributes point close to a perfect life, then may it be said that not in vain did Chester Barlow live.

His works, and the many seeds of kindness he delighted to scatter along the way, have not been lost to us who knew and loved him; and while he has passed on, and left in many a heart an aching void which cannot soon be comforted, there are lessons we have learned from him, treasured memories of an enthusiastic naturalist, a true-hearted gentleman and loyal, helpful friend, which time can never efface.

The sense of personal loss which we as club members feel cannot be lightly expressed. What the world of science and letters has missed in the passing of a student, observer and writer of such uncommon talents cannot be measured now, but we know that as his influence was broadening and uplifting upon all with whom he came in contact, so the unfolding of his mature mind, the revivifying of all that he touched, gave promise of great things in the future.

Certainly it may be said, a beacon light of ornithology on the West Coast glimmered fitfully and expired when the brave spirit of Chester Barlow left the world.

In his active life, so filled and rounded with meritorious deeds, Mr. Barlow was loath to lay aside his work, even when the manifestations of the dread disease with which he was stricken should have counseled him to slacken his pace. When with him last summer in the Sierra, I urged him to lay aside all extra work and care for his health. He would be all right again soon, he said—all he needed was a little time.

After a brief but happy outing he returned to his duties as assistant cashier in the Santa Clara Valley Bank, where he labored on for nearly two months, still deceived as to the seriousness of his condition. When his employers finally obliged him to knock off work he went with his wife to Pacific Grove, hoping that the change would lead to an improvement. The end was not far distant, but he never seemed to realize it, and as he suffered no pain his own cheerfulness lulled the fears of those dear to him. To the last he was hopeful.

A week before his death he declared to Mr. Emerson that by the next week, surely, he would be able to take up the accumulated correspondence of the club, to which he had always attended so faithfully. He would not admit that he was ill enough to require another to take hold of the work or even assist him with it. When the end came, rather suddenly, his passing was peaceful, and fifteen minutes before, he had been helped up and had been sitting in a chair. In a beautiful rural spot, where perchance the white-tailed kite, of which he loved to tell us, may alight in the huge spreading live oaks about his grave, he lies at rest.

It will take some time to realize that he has taken his final journey: that he who disseminated, so lavishly, kindness, good cheer and fellowship; he whose cordial welcome and smile and jest added warmth and happiness to the meetings of our bird students, has really gone out of our life—a little farther on than we have traveled, and beyond the barrier o'er which we may not see, nor, hearkening hear a far "Halloo!" the jovial call of him who was our faithful comrade, our genial companion on many a woodland trail, through brake and fen, on the islands of the sea, or in mountain fastnesses where he loved to roam and ponder; where the birds are singing and calling, and in the silence wondering, mayhap, why he comes no more to those fair scenes he loved so well.

Now that we muse upon the personality of our good friend, from whom in the high administration of an omniscient Providence we have so soon and so sadly been parted, none can think of him, it is safe to say, save as one in a happy, cheerful mood. The mere mention of his name, the superscription of an old letter, recalls inevitably a smiling face, an occasion of good-humored banter; or, perhaps, one with quiet, intent manner, cheerful, unfailingly courteous, and eager of accomplishing an end. It is as a prince of good fellows that we love to remember Barlow, yet we admired his earnest bearing, his equable poise of character, and wondered at the seemingly boundless energy which influenced all his undertakings.

Scarcely more than a dozen years were devoted to studies in Ornithology before his bright career was brought to a close at the age of twenty-eight. From early excursions into the lore of birds, which aside from his home life and his friends was ever the subject dearest to him, he soon passed the experimental or juvenile stage and devoted himself assiduously in his leisure to the advancement of Ornithology on this Coast.

Of the work he has done, the value of his researches, it is not within the province of the present writer here to speak. Rather is it his high privilege to touch upon the life and personality of one whom, in the intimate intercourse of our club meetings, during a decade which has sped all too quickly, we feel it an

inspiration to have known so well; of one whose memory we cherish, in a sadness which comes again and again and will not be dissipated, holding it with all that is good and best upon the earth.

Mr. Barlow was born in San Jose, which was for so many years his home. He was graduated from the High School with exceptional honors, and subsequently entered the Santa Clara Valley Bank in Santa Clara, where he became practically indispensable to the management, being familiar with every branch of the work. His parents being dead he was early self-reliant. His studious disposition led to the collection of a considerable library, particularly of ornithological books. In addition to the painstaking editorial work he undertook, he joined a local lodge of Odd Fellows, in which he filled the chair of Noble Grand. He also found time for some months to attend to commercial correspondence for a firm of seed growers. He made many friends, and it was said of him that he had not an enemy in the world.

He delighted in trips afield and made many excursions into San Benito county and various sections of Santa Clara county in pursuit of his oological hobby, but during his later years he devoted much less time to collecting. He revelled in an opportunity to get away to the hills after golden eagle's eggs. Many a joyous tramp over hill and canyon has been enjoyed by the writer with Mr. Barlow. He was an expert climber and we shared in the secret of the location of a number of nests which were particularly hard to reach.

In the field he was a delightful companion, and always a keen observer. He made careful notes and took many photographs, which went to embellish the pages of magazines. His style was particularly pleasing, and thousands of bird students who have read his articles will feel a sense of personal loss at his passing from among us.

It seems scarcely necessary to say that Mr. Barlow was a charter member of the Cooper Ornithological Club. So much of its history, its steady growth in popularity and usefulness, is directly attributable to his untiring efforts and wise counsels that it is impossible to dissociate the man from the club which he, more than any other, did so much to perpetuate. It was always near to his heart, and with cheerful zeal, which commanded the admiration of all, he gave his time and talents to booming the meetings, booming the club and spreading the fame of its magazine, of which he was the highly talented editor until Death touched him gently and called him hence from earthly tasks well and nobly accomplished.

He never served as President of the club, but he was more than that. Often I have said to him, "Barlow, you *are* the club." He came very near that many times, and we who know the club's history and of all his labors for its advancement may place the honor where it is due. Others have done much, but our good friend was head and shoulders above any in the making of its fortunes.

No sooner was a meeting over than Mr. Barlow was planning for the next. As Secretary, from the organization's inception, he filled many offices in one. Modesty was one of his charming traits, and without hope of reward he accomplished great things. Unassuming, he never sought preferment, but knowing that some one must do the work he did it steadfastly, patiently, joyously. No discouragement balked him, for he entered heart and soul into his labors. He could never be spared from the office of Secretary, so important in a bird club with widely scattered membership, to accept the more or less honorary position of President. Through nearly ten years of arduous endeavor he never shirked a responsibility nor sought to shift the burden upon another's shoulders. It was

his delight to render hard, personal service in the club's behalf, and he left to others the nominal honors. As President he would have served well, and it would have given him pleasure, but if the thought occurred to him he put it aside with the unselfish feeling that his place was where the club most needed him. At the last meeting of the Cooper Club, held not long before his death, he was nominated for the Presidency of the club for 1903, an office he now can never hold.

The writer well recalls, amid a host of pleasant reminiscences, how he first had the pleasure of meeting Mr. Barlow in San Jose in the summer of 1893, but a few months after the Cooper Ornithological Club had been started by a few enthusiastic and youthful bird students of that vicinity. I was about to launch the *Nidologist* at Alameda, and hearing in some way of the club in Santa Clara county made the trip with a view to forming a sort of coalition.

I found that the club had six or seven members all told, but they were very much alive, among them being Chester Barlow, Wilfred H. Osgood, Harry R. Painton and Mr. Schneider. I attended a meeting at Painton's house at College Park after spending the day with Barlow and Osgood, and joined the club. The "Traveler and Naturalist," an unpretentious journal printed on a small hand press some where, was to have been made the official organ of the bird club, but the seven members voted unanimously in favor of adopting the "Nid." Thereafter the "Traveler and Naturalist," having lost the block of seven subscribers constituting the Cooper Club's membership ceased its travels, pined and died.

At that early meeting the discussion of exchange deals in eggs, made with certain eastern collectors by Osgood, Barlow and Schneider, and jovial collecting reminiscences, not to forget a generous collation, succeeded the "reading of scientific papers," among which, if I mistake not, there was one by Mr. Osgood on the "Nesting of the Yellow-bellied Flycatcher." That meeting was a red-letter occasion for the present writer, and led to a frequent correspondence with Mr. Barlow, then editor of the club's department in the *Nidologist*, which continued uninterrupted with mutual profit and enjoyment through the years, cementing a friendship in ties which became indissoluble, and which promised so much of happiness through life.

The relations of the club and the ornithological journal I then published, carried on through the medium of the genial Secretary, were always most pleasant, and proved helpful to the club and to the journal. The members early showed a cheerful disposition to aid the editor with photographs for illustration and with entertaining articles. Barlow wrote an article on the nidification of the cinnamon teal and the mallard duck. Schneider had a fine picture of a mallard's nest and eggs, but it seems he had promised it to the *Oologist*. It was *in situ*, and just what I wanted. Barlow and Osgood "labored" with Schneider and finally induced him to "loosen up" and supply the club's official organ with the coveted photograph, which after publication I ascertained was of a "home made" nest, which had been cunningly formed by Mr. Schneider himself in the grass near his house for photographic purposes.

How many good times we had at Barlow's home in San Jose! In those days when he was unmarried, and afterward in his pretty cottage at Santa Clara where his charming wife joined in extending hospitality to "bird cranks," his latch-string was always out for the "boys," and visiting ornithologists in the State were glad of an opportunity to seek out the Mecca of our bird students, where a cordial welcome was ever extended.

Barlow always "expected" his friends. No special invitation was necessary.

I recall vividly the experience of one night, which illustrates, if crudely, the sort of good fellow Mr. Barlow was with his friends. On bicycles with my younger brother-in-law, who had never met the Cooper Club's Secretary, I left Alameda one evening for a spin on the country road. Having reached Haywards we yielded to a sudden impulse to keep on to San Jose. The small change we had with us was soon spent for crackers and cheese by the wayside, and after a toilsome run of fifty miles we arrived in San Jose after 9 p. m., hungry, dusty as tramps, and broken in spirit and purse as well.

Barlow was our refuge. We prayed, very fervently, that Barlow might be at home. With trepidation we rang the bell. The landlady opened the door slightly and said, in response to our inquiry, that he was in Santa Clara. She did not know if Mr. Barlow would return before midnight, if then. Of course we said we were very sorry (we really were), that we had journeyed far to see Mr. Barlow, and felt deeply grieved at his absence.

"Did he expect you?" said the landlady.

"Oh yes, ma'am, yes indeed!" we unblushingly answered.

Then to our unspeakable relief she said we might come in and ascend to his room. We accepted the invitation with alacrity. We furthermore made ourselves very much at home—used his towels, ate of anything we found about, enjoyed his books, and when tired of waiting for him to arrive capped the climax by retiring to rest in his bed. When he came home he was most happy to discover we had taken possession, and wanted to insist on our visiting a restaurant at once for further refreshment. Then we slept, three in a bed, or slept when we ceased talking in jolly vein. I believe the bed came down in the middle of the night, but a little thing like that did not feaze us. Next morning we borrowed from our kindly host, who insisted on our staying longer, fares to return by train.

It is the fraternal feeling in the Cooper Club, the jollity and sociability which our friend did so much to foster, that has united so closely its members, encouraging them to travel over 100 or 125 miles on the round trip to attend a meeting. It is our happiness to know that this spirit survives and will long continue.

Mr. Barlow was ever ready to give information to younger fellows anxious to learn, and no one can enumerate how many such he has aided in many ways and induced to become members of our club. Some of these have since become writers and ornithologists of note.

The mystery and grandeur of the Sierra Nevada mountains held him in a spell which grew upon him year by year, and in those wonderful mountain ranges he did his last work. The nests and eggs or the birds he might collect or record in that interesting region were subordinate to the love he felt for the wonder of the great woods, the songs of the birds of the wild, high Sierra he knew so well.

So I have seen him on his last expedition to the Pracerville-Tahoe trail, reposing beneath some forest giant on the mountain side, and lost in happy reveries, while he enjoyed it all supremely; and there was a look upon his face as though across the great, dark canyons, and over beyond, he saw a fairer land, a land where the birds still rapturously sing, and a brooding peace awaits all those who keep their hearts sweetly in tune with the glories of the world, which seen aright, point the way to harmonies celestial and eternal.

The Ornithological Writings of Chester Barlow.

BY JOSEPH GRINNELL.

DURING the even decade of Chester Barlow's activity along literary lines more than fifty articles appeared to his credit, besides recently numerous editorials and short notes. His first article that I have found came to print in August, 1902, in Lattin's *Oologist* where so many of us younger bird-students received our first inspiration to "write up" what we had learned. This first article of Barlow's was on the nesting of the ashy petrel on the Farallone Islands. He had visited these fascinating bird-islands and his discoveries there served also for several subsequent papers of remarkable interest to their younger readers, who longed to get to the oologist's paradise that was so vividly depicted.

In 1893, within a few months after the founding of the Cooper Ornithological Club, its Secretary's Reports began to appear regularly in Taylor's *Nidologist*. These reports were compiled largely from papers presented at the meetings. Here Barlow's good judgment and literary talent came into play in culling out and compiling from the heterogeneous and often poorly-composed manuscripts those accounts we still find so full of interest. These "Secretary's Reports" continued for nearly four years, and are yet of high value for reference in regard to the life-histories of many western birds.

During this period many signed articles also appeared dealing with bird-life in Santa Clara county. Here we find valuable articles on the nesting of the white-tailed kite and golden eagle. Then came the summer-vacation trips to the Sierra Nevada, and the delightful articles relating to its bird-life, not only pleasing, but of permanent value to science—important additions to the known histories of such birds as the hermit warbler, Calaveras warbler, olive-sided flycatcher and Cassin Vireo.

With the inauguration of the Bulletin of the Cooper Ornithological Club in January, 1899, Barlow's really most important service to ornithology began, though his own signed articles became fewer. We probably never can sufficiently realize the great influence Barlow exerted in "bringing out" previously unknown observers—urging them to contribute from their own stock of knowledge, and thus instilling that enthusiasm which when once well started may in time lead into the genius of a Coues. Barlow is not considered by some to have been a scientific ornithologist. He never wrote an article which was not intended for the merest beginner to read and enjoy. But I believe his career to have had a much more far-reaching influence on *scientific ornithology* than if he had entered, and confined his entire energy to, systematic or philosophic fields.

1892. The Ashy Petrel (*Oceanodroma homochroa*) on the Farallones. —*Oologist* IX, August 1892, pp. 193-194.

1892. Professional Egging; or the Collecting of Murre's Eggs in California. —*Oologist* IX, December 1892, pp. 255-257.

1893. A Day with the Creek Birds. —*Am. Mag. of Natural Science* I, May 1893, pp. 77-78.

1893. The White-tailed Kite and Prairie Falcon in California. —*Oologist* X, September 1893, pp. 258-260.

1893. Nesting of the Mallard Duck [near San Jose]. —*Nidologist* I, November 1893, p. 38, 2 hftt.

1893. The Pileolated and Yellow Warblers [nesting in Santa Clara County]. —*Nidologist* I, November 1893, pp. 44-45.

1893. Nesting Habits of the Brandt's, Baird's and Farallone Cormorants. —*Am. Mag. of Nat. Science* II, November 1893, pp. 53-54.

1893. Cooper Ornithological Club. [Secretary's Report, including notes on Lutescent Warbler, etc.] —*Nidologist* I, December 1893, pp. 60-61.

1894. Collecting on the Farallone Islands. —*Naturalist* I, January 1894, pp. 7-8.

1894. Cooper Ornithological Club. [Secretary's Reports, including much bird matter compiled from papers presented at meetings]. —Nidiologist I, Jan. 1894, p. 74; Feb., pp. 95-96; March, p. 111; April, pp. 122-123; May, p. 143; July, pp. 159-160; II, Oct. 1894, pp. 28-29; Nov., p. 43; Dec., pp. 56-57.
1894. The Golden Eagle. —Naturalist I, July 1894, pp. 75-77, hft.
1894. Nesting of the Ashy Petrel. —Nidiologist I, August, 1894, pp. 171-173, 3 hftt.
1894. Some notes on the Western Gull. —Nidiologist II, September 1894, p. 7.
1895. Cooper Ornithological Club. [Secretary's Reports, including much bird matter compiled from papers presented at meetings] —Nidiologist II, Jan. 1895, pp. 69-71; Feb., pp. 85-86; May, pp. 123-125; June, pp. 144-145; July, p. 160; III, Sept., 1895, pp. 6-7; Oct., pp. 20-21; Nov., p. 38.
1895. Early Nesting in California [of Magpie, Poor-will, etc.] —Nidiologist II, May 1895, p. 126.
1895. In the Haunts of the White-tailed Kite. —Oologist XII, June 1895, pp. 97-101.
1895. Stray Notes from the Farallones. —Nidiologist II, August 1895, pp. 166-167, hft.
1895. The Yellow-billed Magpie. *Pica nuttalli*. —Avifauna I, October 1895, pp. 20-21, hft.
1896. Cooper Ornithological Club. [Secretary's Reports, including bird matter compiled from papers presented at meetings] —Nidiologist III, April 1896, pp. 88-89; August, pp. 141-142.
1896. Cassin's Vireo in Santa Clara Co., California. —Wilson Bulletin No. 8, May 1896, pp. 7-8.
1896. Three days in the Sierras. —Osprey I, September 1896, pp. 5-7, hft.
1897. Cooper Ornithological Club. [Secretary's Report, including several bird notes] —Nidiologist IV, January 1897, pp. 41-43.
1897. Some Notes on the Nesting Habits of the White-tailed Kite. —Auk XIV, January 1897, pp. 14-21.
1897. Occurrence of *Zonotrichia albicollis* in California. —Auk XIV, April 1897, p. 221.
1897. A Curious Bird Note. —Nidiologist IV, May 1897, p. 104.
1897. The Story of the Farallones | text by | C. Barlow | arranged and published by | H. R. Taylor | Editor of "The Nidiologist" | Price, 50 cents | Alameda, California . . . | 1897; 36 pp. (unpaged), 28 hftt. (of birds, scenery, etc.).
1897. Price after an Olive-sided Flycatcher's Nest. —Osprey II, September 1897, p. 13.
1897. The Golden Eagle. *Aquila Chrysaetos*. —Avifauna I, September 1897, pp. 34-36, hft.
1897. Nesting of the Olive-sided Flycatcher. —Osprey II, December 1897, pp. 47-48, hft.
1898. After the Golden Eagle. —Osprey II, March 1898, pp. 82-84, hft.
1898. The Summer Home of Vireo Solitarius Cassini and Other Notes. —Oologist XV, April 1898, pp. 29-32, hft.
1898. Appropriation of the Yellow-billed Magpie's Nest by the Desert Sparrow Hawk. —Wilson Bulletin No. 20, May 1898, pp. 40-41.
1899. Nesting of the Hermit Warbler. —Osprey III, March 1899, p. 109.
1899. Early Hummingbirds' Nesting. —Bull. Coop. Orn. Club I, March 1899, p. 24.
1899. Another Chapter on the Nesting of *Dendroica occidentalis*, and Other Sierra Notes. —Bull. Coop. Orn. Club I, July 1899, pp. 59-60, hft.
1899. The Nesting Haunts of the Black-throated Gray Warbler. —Bull. Coop. Orn. Club I, September 1899, p. 96, hft.
1900. Brewer's Blackbird Nesting in Cavities. —Condor II, January 1900, p. 18.
1900. Sierran Crossbill in El Dorado Co., Cal. —Condor II, January 1900, pp. 18-19.
1900. Nest and Eggs of the California Creeper. —Condor II, May 1900, p. 59.
1900. Two more Eggs of California Condor. —Condor II, May 1900, p. 60.
1900. Nest and Eggs of the Hermit Warbler. (*Dendroica occidentalis*). —Condor II, March 1900, p. 42, hft.
1900. [Review of Keeler's] Bird Notes Afield. —Condor II, March 1900, p. 47.
1900. An Outing Into the Pyramid Peak Region of California. —Condor II, September 1900, pp. 103-110, 3 hftt.
1900. [Review of Van Denburgh's] Notes on Some Birds of Santa Clara County, California. —Condor II, September 1900, p. 120.
1900. Some Additions to Van Denburgh's List of Land Birds of Santa Clara Co., Cal. —Condor II, Nov. 1900, pp. 131-133.
1901. Pacific Coast Changes in the Check List. —Condor III, July 1901, p. 106.
1901. Some Characteristics of the Mountain Chickadee. —Condor III, September 1901, pp. 111-114, hft.
1901. Vireo Traits. —Condor III, September 1901, p. 119, hft.

1901. *Falco columbarius* at Santa Clara, Cal. —Condor III, September 1901, p. 133.
 1901. A List of the Land Birds of the Placerville-Lake Tahoe Stage Road. | Central Sierra Nevada Mountains, Cal. | By Chester Barlow | With Supplementary Notes by W. W. Price. —Condor III, November 1901, pp. 151-184, 11 lftt.
 1902. Some Echoes from the Sierras. —Condor IV, July 1902, pp. 79-81, lftt.
 1902. Some Observations on the Rufous-crowned Sparrow. —Condor IV, September 1902, pp. 107-111, 2 lftt.

Nesting of the Townsend Solitaire.

BY A. W. ANTHONY.

NEARLY all of our western ornithologists are familiar with the Townsend solitaire in life. A few of the more favored have listened to its incomparable song, as, perched on the topmost twig of a dead fir, in the solemn silence of the high Sierras, or in deep and ragged canyons of the Rocky Mountains, this shy,



PHOTO BY A. W. ANTHONY.

NEST AND EGGS OF THE TOWNSEND SOLITAIRE.

retiring bird pours forth its very soul in a wild ringing outburst of song, that seems to descend from crags and ledges in a veritable shower of crystalized melody. With

none of our song-birds is the song so long sustained as with this species lasting as it does for several minutes, sometimes without a break. But if the beauty of its song is known to but few, still fewer can claim an intimate knowledge of its nesting habits.

During the past summer it was my good fortune to discover a nest under circumstances favorable for securing a photograph of a perfectly typical nesting site and nest, which are herewith offered to the readers of *THE CONDOR*.

The set of four eggs together with the nest has found a permanent home in the collection of Mr. J. W. Preston of Baxter, Iowa.



PHOTO BY A. W. ANTHONY.

LOCATION OF THE TOWNSEND SOLITAIRE'S NEST.

The discovery was made on July 23, on Eagle Creek, in the Powder River Mts. of eastern Oregon. The nest was built in a ditch bank about six feet above the water and less than half that distance from the top of the bank. The ditch, which has been cut to furnish water to the placer mines, was, at this point, some distance up the mountain side in the scattered fir forest. The formation, as can be seen in the illustration was firm gravel. A large rock had become loosened and fallen from its matrix. In the cavity thus formed the nest was placed, and with the long loose

grasses hanging down from the side it very successfully simulated the overhanging grasses and rootlets of its surroundings.

When discovered, the parent was brooding, but left the nest silently and disappeared, nor was she seen again while I was in the neighborhood. The eggs at this date contained small embryos.

There was no evidence of a former brood having been reared in this nest, nor had I seen any young of the species in the month or more I had been in the canyon.

The following is a description of the nest and eggs kindly supplied by Mr. J. W. Preston of Baxter, Iowa. At the base of the nest is a quantity of disintegrated trash such as bits of bark, pieces of weed stalks and finely broken old grass stems and blades, with some dirt and dust which had evidently been scratched up from the bottom of the cavity. On this slight platform are dead sticks and twigs, from larch and pine, intermixed with much old faded grass, pine needles and leaves of fir, and with some bulbs and rootlets of different grass-like sedges. The materials have been drawn into the burrowed-out cavity in the bank, leaving two-thirds of the material outward from the true nest, which is of fine dry grass stems and blades finely shredded and formed into a neat, well-rounded rather shallow cup. I note a few sprays of the long, black moss so common among the fir trees of the mountains. The structure before me is oblong in outline, being ten inches long by five wide, and three and one-half inches deep. In the inner end is formed the neat, symmetrical nest, cunningly resting in so great an amount of superfluous matter. The inside measurements are one and one-half inches deep by two and nine-tenths across. The structure is of course, somewhat compressed in boxing.

The ground color of the eggs is faint greenish-blue, blotched and marked with pale chestnut and lavender. Some of the spots are large, and a number of irregular markings resembling written characters appear, well scattered over the surface, but heavier about the larger end. Two of the eggs are less heavily marked, the specks and spots being smaller. These eggs appear somewhat elongate. The following are the measurements: .90x.64, .94x.64, .95x.65, and .96x.66; average .93x.64 inches.

Nesting of the Abert Towhee.

BY M. FRENCH GILMAN.

IN PARTS of the Colorado Desert the Abert towhee (*Pipilo aberti*) is quite at home, and in the breeding season is fairly common. During a three or four years acquaintance with the species at Palm Springs, Indio, and Torros, I have made a few observations of nesting habits which may be of interest to Club members.

While more shy and retiring in disposition than the California towhee yet if undisturbed the Abert gains confidence and will make itself at home about the house. Its song or rather chirp, is more musical I think than that of its near relative, and is pitched in a higher key.

During the winter of 1899 I saw two pairs of the birds at Palm Springs and found one old nest. On May 9 of the same year I found a nest in a desert bush about two feet from the ground. The old bird slipped quietly off at my approach and revealed a set of three eggs slightly incubated. They were longer than those of the California towhee and not quite so large around. The nest was deeper cup-shaped and not quite so bulky.

The next season I saw several of the birds but found no nests. In March, 1901, in company with Nathan Hargrave of Banning, I made a trip to Toros and Martinez, thirty and thirty-five miles southeast of Palm Springs, and from fifty to one hundred feet below sea level. Here we saw several pairs and found two incomplete nests, and one containing two fresh eggs. All were in mesquite trees from three to eight feet from the ground. The birds were quite numerous and tame around the home of a Moravian missionary living at Martinez, and amused themselves by pulling up young alfalfa and millet that he was trying to raise. A few days later, March 24, at Palm Springs, I found in a desert shrub a nest with two fresh eggs.

In the winter of 1902 the birds were quite common at Palm Springs, six pairs being noted one day. In fact there were "all kinds of towhees" around that winter. One day, in the immediate neighborhood, half a mile from town, I saw the California towhee (*Pipilo crissalis senicula*), spurred towhee (*P. maculatus megalonyx*), Abert towhee (*P. aberti*), and the green-tailed towhee (*Oreospiza chlorura*).

On April 17, 1902, I found a nest in a desert bush containing two infertile eggs and a young bird. Two days later I took a set of three partly incubated eggs from a nest in a pepper tree. April 25 and 30 I found two nests in orange trees containing respectively three and four eggs each, and May 11 and 22, I found in orange trees two nests with three eggs each. The last two nests found were second sets, the birds moving a few yards from the first nests. Three seems the usual number of eggs in a set, four being found only in the one instance. Some of the birds were rather close sitters, while others slipped from the nest at my first appearance. The male birds exhibited some concern, hopping about in a nearby bush or tree and chirping uneasily.

The composition of the nests varied according to location. Those found in the desert bushes, three nests, were some distance from any house and were composed of coarse bark and a few grass stems and lined with fine bark. The other nests were in an orchard not far from a dwelling house and a barn and their composition differed from the other three. The nest found in the pepper tree was made of cottonwood bark, pieces of paper, grevillia leaves, and strips of gunny-sack and old overalls, and was lined with horse hair and fine bark. The nests in the orange trees were quite similar, varying only in detail. One was lined mostly with an old white-wash brush, pulled apart of course. One had much paper, in large pieces, jute, and cotton twine in the walls; while another displayed a fancy colored tomato can label. All were from five to ten feet from the ground.

Palm Springs seems the western limit of their range though they may occasionally stray as far as Whitewater, ten miles further west, where there are a few mesquite trees. But I have never seen one west of Palm Springs.

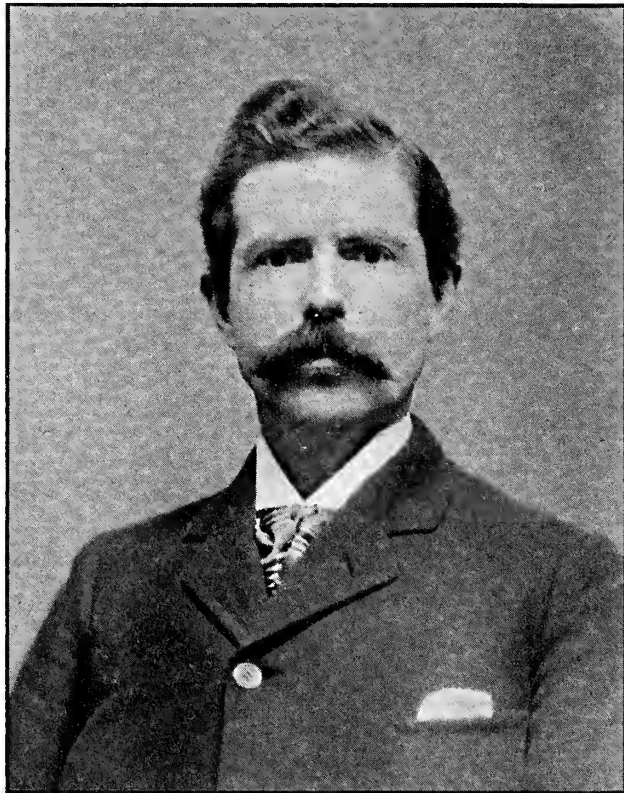
The Author of "Birds of North and Middle America."

DURING 1903, THE CONDOR will publish in each issue the portrait of an eastern ornithologist, that the Cooper Club may become better acquainted, as it were, with those *men*, whose *work* is already so well and deservedly known.

We therefore take pleasure in opening the series with the portrait of Mr. Robert Ridgway, whose work, the "Birds of North and Middle America," besides marking a distinct advance in the progress of systematic ornithology, at once places its author in the lead of contemporary systematic ornithologists. We believe we do

err in stating that when completed this work will be the largest piece of regional systematic zoology ever done by one man.

For over thirty years Mr. Ridgway's ready pen has been active, and he is the author of a long list of papers and books. Space does not permit even a complete enumeration of the longer and most important. As far back as 1869 we find "Notices on Certain Obscurely Known Species of American Birds," and during the few following years many other papers appeared. In 1874 "A History of North American Birds," (Land Birds, three volumes) by Baird, Brewer, and Ridgway was published. Besides the monograph of the Raptors, Mr. Ridgway contributed much of the technical matter. Following this, his "Ornithology" of the Fortieth Parallel Explorations, appeared in 1877; Nomenclature of North American Birds, 1881; A Revised Catalogue of the Birds of Illinois, 1881; Water Birds of North America,



MR. ROBERT RIDGWAY.

Baird, Brewer, and Ridgway, 1884; Nomenclature of Colors for Naturalists, 1887; Manual of North American Birds, 1887; Ornithology of Illinois, Vol. I, 1890, Vol. II, 1895; The Humming Birds, 1892; Birds of the Galapagos Archipelago, 1897; Birds of North and Middle America, I: Fringillidæ, 1901, and recently (1902) part II of the same work.

As a sympathetic painter of birds, Mr. Ridgway is too well known to need mention here. His work ranks with the best that has ever been done, and its characteristics include not only fidelity to nature but a certain delicacy in execution, which renders his pictures particularly pleasing.

Notes on Pine Siskins.

BY CHARLES W. BOWLES, TACOMA, WASH.

THESE are about the most eccentric birds that make a continuous stay in or near Tacoma. They seem more or less abundant at all times, and can be seen feeding anywhere that seeds can be found, from the vacant house-lots in the city up to timber-line on Mt. Rainier, and in all of the desolate river valleys that lead down from the mountain in different directions. The siskins are equally abundant everywhere, and unlike other birds, may be seen in flocks of from ten to fifty or more, at any time of the year, in spring and summer, as well as in autumn and winter, but the flocks are usually larger in winter.

When they begin or end the nesting season is an open question, and it is equally doubtful whether each pair has more than one set of eggs in a season or less than three. If a pair wants to nest, they leave the flock usually accompanied by two or three other pairs and build almost always in a fir. The nests are from ten to thirty feet up, probably often higher, but the birds do not frequent the very large timber much and are well out on the limb so that the nests can be reached only with a rope, or by cutting the branch. These trees are easily located, as all of the accompanying pairs pass most of their time in the tree containing the nest, chirping and twittering continuously. It is quite another proposition when it comes to locating the nest, especially when in large groves, as the structure is usually concealed by lower branches, or by moss when far up in the mountains.

Nests were found at various dates: May 16, one egg just hatching; May 21, young just hatched; May 22, three fresh eggs; August 14, three eggs fresh, and at intervening dates, at all stages of incubation. Sets of one, three, and four were found, but three seems most common.

It might be supposed that the several pairs lay in the same nest, but that above referred to, containing one egg, had three or four pairs superintending, and a nest containing four eggs was the only one seen that had only a single pair.

If the bird is on the nest she will not flush for sticks or stones thrown around her, or even a rope swinging against the twigs supporting the nest, and not usually till the collector has swung out within a foot or two of her.

The nests are about four and one half inches by two inches externally, and one and three quarter inches by one inch internally. They are composed of whatever is easiest to find; externally of twigs, cedar bark, several kinds of moss, dead grass, fir and hair, plant down and sometimes fine roots; internally of fine moss and hair or fur from cats, rabbits, cows and horses. The eggs resemble those of chipping sparrows, but are smaller and much lighter colored in every way, and apparently never have any black markings. The ground color is a delicate light green, with dots, blotches, streaks, and marblings of different shades of lavender and brown, some being quite dark. Measurements average 67x49 inches with very little variation.

The first and last nests were found in Tacoma so that altitude could not have had any effect.

The Band-tailed Pigeon in San Diego County.

BY C. S. SHARP, ESCONDIDO, CAL.

THE band-tailed pigeon (*Columba fasciata*) is a pretty regular winter visitant to the foot-hills of San Diego county, frequently coming down to the Escondido Valley in bands of fifteen or twenty when driven out by the snows above, but generally staying in the outlying orchards and grain fields near the hills. I have heard from several persons that they nest regularly on Palomar and the Cuyamaca Mts., but had no personal knowledge of such an occurrence.

This past season, however, while spending a few days with my friends J. S. and J. B. Dixon at their ranch on Pine Mt., some twenty miles east from here, my supposition was made a certainty. On May 11, while on a hunt in their company near the top of Pine Mt., a bird was flushed by Mr. J. B. Dixon from its nest in a medium sized black oak tree. The nest, which contained one egg, incubation well advanced, was on an almost horizontal fork of two medium sized branches at an elevation of twenty-nine feet, and was quite as poorly constructed as the average nest of the mourning dove (*Zenaidura macroura*) and was readily seen through from below. Perhaps fifty small twigs and a dozen or two pine needles were used, loosely laid together in the usual dove-like way. Its measurements were as follows: Diameter, outside, 6x4 inches, inside, 5x4 inches; depth, outside, one inch and inside, three-eighths of an inch. It was scarcely more than a rude platform, the depression being caused by the bird's weight.

On June 24, 1902, Mr. Dixon, on visiting the same locality, was surprised to flush a bird again from the same nest, and took therefrom a second egg, which was too far advanced in incubation to be preserved. The measurements of the first egg were 1.60x1.10 inches; those of the second were not obtained. This nest was at the very highest fringe of the oaks where they meet the pines, elevation about 3,250 feet. Another nest taken by the same collector on May 3, 1901, also at about the same elevation on Pine Mt., contained two fresh eggs. This likewise was in a black oak on the lower fringe of pines, and was composed of the same scant material, a few twigs and pine needles, and was placed seventeen feet from the ground. No measurements of this nest were taken. The dimensions of the eggs are 1.56x1.08 and 1.55x1.10 inches. In this case also the bird was flushed from the nest.

As these nests are apparently always placed at some little distance from the ground, and are mere platforms and hard to see owing to the surrounding foliage, they are not readily discovered except by the actual flushing of the bird. One must be quick even to see the bird. It does not flutter along the ground in the manner of the mourning dove nor does it sit on a nearby branch and coo, but is off like a shot and it requires a pretty sharp eye to follow its flight through the trees.

Palomar and Cuyamaca Mountains are several thousand feet higher than Pine Mt., where these nests were found, and partake more of the higher transition and Boreal which is supposed to be the breeding area of this species. I believe that a diligent search there would prove them a much more abundant resident species than the data at present attainable would lead one to suppose.

FROM FIELD AND STUDY

Voracity of Albatrosses.—In 1851 I went on a voyage in an Arctic whaling ship, the *Uncas*. When about sixty miles south of the Cape of Good Hope, we killed a large male sperm whale, tho he took down one of the boats which attacked him before he finally succumbed. A violent gale prevented us from saving all the oil from the whale, before about a week had passed, during which many wandering albatrosses (*Diomedea exulans*) and other sea birds feasted on the carcass which was along side of the ship. The screams of the albatrosses could be heard above the roar of the waves and the piping of the wind in the ship's rigging. The albatrosses were ravenous, astonishingly so. The ship's cook took about a dozen pieces of blubber that would weigh from three to four pounds each, tied a stout string about three feet long to each, then knotted the free ends together and cast them among the albatrosses which were within a few feet of the ship. In a twinkling every piece of blubber was swallowed by a different bird, which upon realizing its predicament would start to fly and turn a somersault, or set its wings deep into the water and back away from the piece of blubber it had swallowed. Their throats are capable of great expansion, tho probably somewhat less so than that of the constrictors.

After the cook had repeated this performance several times he varied the entertainment by substituting about half a dozen pieces of rough triangular firewood for the blubber. These were as bulky as the blubber and as readily swallowed, and then disgorged again.—LYMAN BELDING, *Stockton, Cal.*

***Sterna paradisæa* in Southern California.**—While rowing about the tide-water flats back of Terminal Island, near San Pedro, Cal., with Mr. Geo. S. Chambliss, Sept. 13, 1902, looking after migrants, we saw a flock of about twenty-five terns resting on a mud flat. They flew up as we approached and Mr. Chambliss shot one from the edge of the flock, when they all circled about with loud cries, being joined by a number of California gulls (*Larus californicus*). Another specimen was taken. Upon examination they proved to be the Arctic tern (*Sterna paradisæa*). On the return to the landing the same flock was again seen and an immature specimen secured. So far as I can learn the only other record of *Sterna paradisæa* from California is that noted in Grinnell's *Check-List of California Birds*, from Monterey.—FRANK S. DAGGETT, *Pasadena, Cal.*

The Number of Feathers in a Bird Skin.—Last summer I put in spare time in making a count of the feathers on a gull and a sparrow. As there is no prospect of being able to continue the same on other species I will give the record here. These are not estimates, but actual counts feather by feather.

Ammodramus sandwichensis. Body including tail feathers, 762; legs, 78; head and neck, 710; wings, 349; total, 1899.

Larus glaucescens. Head, 2620; neck, 803; back and interscapulars, 570; breast and flanks, 880; wings, 721 + 748; legs and tail, 202; total, 6544. —RICHARD C. MCGREGOR, *Manila, P. I.*

Do Wild Birds Die Instantly?—Mr. Wm. Earl Dodge Scott, in an article on birds in *The Outlook* of July 5, 1902, has made a statement that is somewhat remarkable in that it shows how differently Nature reveals herself to different observers, and especially remarkable because so emphatically backed up by his reference to hunters and others whose occupations teach them to observe. He states that not only do birds die instantly—which term must be here used in a comparative sense, and is a little strong—when injured or afflicted with illness, but also that, in all his experience he has never come across a sick bird or animal in a wild state, nor met any one else who has done so. My attention was attracted by this statement, because, although Mr. Scott probably has had much greater opportunities for observation than I, my experience has been very different from his. This may perhaps be accounted for by the mildness of climate or a lower proportion of bird enemies in the Pacific Coast collecting grounds, but it is a fact that occasionally sick or suffering birds and animals are to be found in California. For example, I have found dead seabirds along the shore, with no signs of their having been injured, in a greatly emaciated condition showing that they had suffered for some time before death. I have shot land birds that were wofully thin and weak, and have even taken one or two that were so afflicted with some cutaneous disease that it seemed advisable not to handle them. The California Jack rabbit suffers to a great extent from lumps caused by a parasite, and these are sometimes so large and weaken the animal to such a degree that it can hardly get out of one's way.

Besides eye witnesses who can verify some of these observations of my own there must be others who have had similar experiences, and consequently Mr. Scott's statement can not be accepted as an absolute rule.—JOSEPH MAILLIARD.

[My own experience agrees perfectly with that of Mr. Mailliard. During December, 1900, while at Monterey Bay I saw a Heerinann Gull and many emaciated Brandt Cormorants which were dying a slow death, and only yesterday (Dec. 22, 1902) saw another during a short walk near the Point Pinos Light. On Laysan Island, Hawaiian Group, I saw a number of sickly birds among the sea-fowl, and found a very rare petrel in this condition. Mr. Scott's rule does not obtain among mammals for beside the example offered by Mr. Mailliard, I found a large sea lion near Cypress Point which existed for days in a perfectly helpless and moribund condition until Professor Harold Heath and myself mercifully killed it. Dissection showed no internal injuries nor parasites, while the teeth rather pointed to old age.—W. K. F.]

The Fall Migration of *Oreortyx pictus plumiferus*.—The fall migration of the mountain quail (*Oreortyx pictus plumiferus*) appears to be influenced but little by the food supply or temperature in its summer habitat in the Sierras which it appears to leave because the proper time has arrived for its annual tramp down the west slope. The first flocks start about the first of September, or sometimes two or three days sooner. At Webber Lake after three cold cloudy days, they began to move westward August 28, 1900. When they are migrating their whistle is frequently heard, and they do not seek cover for protection but follow a wagon road, railroad, travel in snow sheds, pass near dwellings, and seem to care but little for self preservation.

Several flocks used to come down to the foot of Stanfield Hill, Yuba County, which for eight years was my favorite shooting grounds, and there spend the winter. They would arrive about the middle of October. One year they did not come at all, and I wondered if they could foretell the mildness or severity of the coming winter, for that winter was a mild one, excepting that October was unusually cold and stormy. Their regularity in leaving the mountains without regard to food, temperature, or size of young has mystified me quite as much as *Anthus pensilvanicus*, and other northern breeding birds which I found in southern Lower California. Why they should remain in the tropical climate of Cape San Lucas until the first of May and then depart for their northern breeding grounds at the same time when they start north from the much more northern Central California puzzled me, for there was no perceptible change in climatic conditions about the first of May, and indeed scarcely a change in them, at the Cape, during the two or three preceding months.—LYMAN BELDING, *Stockton, Cal.*

Do Quail, *Lophortyx californicus vallicolus*, Remove Their Eggs?—One evening last spring as men were mowing the meadow, I went out to look for quail nests. In all I located eight nests, containing from three to eleven eggs. The following morning I revisited the nests and was surprised to find that four were empty.

Passing outside the field I flushed a quail from a nest containing six eggs which I recognized as a clutch (then of five) I had seen in the field the previous day. I am positive these were the same eggs as I could not mistake the peculiar marking of two of them. This second nest was forty feet from the other and on slightly higher ground. Is this characteristic of the birds? If so, how do they remove the eggs?—ERNEST ADAMS, *Clipper Gap, Cal.*

Frozen Toes.—I shot a golden-crowned sparrow the other day near Palo Alto that shows a curious mutilation of the feet. The outer toe of each foot is thickened and gnarled so that the joints can hardly be distinguished. A stump of the bone or claw protrudes at the tip. The whole thing reminded me of the way chickens' toes look after being frost-bitten. The sparrow, as shown by the skull, was of a last year's brood, and might have tarried in its northern home last fall until a hard freeze set in. I have seen similar scars on bird's feet before, but I can't just now remember what species. Perhaps someone can suggest a more reasonable explanation.—JOSEPH GRINNELL.

Food of Anna Hummingbird.—In December, 1901, I collected a female Anna hummingbird which had eaten thirty-two green tree-hoppers, one spider, one fly, apparently a *Simulium*, and other insect remains which could not be determined.—F. C. CLARK, *Napa, Cal.*

Wood Ibis in Southern California.—The wood ibis (*Tantalus loculator*) is so rarely noted in Southern California that a flock of twenty-five seen by Joseph Grinnell and myself from the train, on the margin of a tide flat one-half mile north of Oceanside, August 5, is of especial interest. This is the first time we have seen it on this coast and the records of other observers are few and far between. On August 15, Mr. G. H. Coffin shot one from a pair at Bixby, Los Angeles Co., but not knowing of its rarity it found its way into the pot and proved "not very good eating." I was able to identify it by its head and wings.

On August 23, Mr. Coffin and T. L. Duque went out purposely for the other one and were fortunately able to secure it. Through their kindness it reached me in good condition. It

proved to be a female in well worn plumage; crop filled with fragments of aquatic insects.—FRANK S. DAGGETT, *Pasadena, Cal.*

A Rare Land Bird Taken at Sea.—November 13, 1901, while on *U. S. S. Pathfinder*, making the run from Nagasaki to Manila, I killed a female specimen of *Calliope kamtschatkensis* (*Gm.*) which had come aboard and was resting in the rigging. The position of ship at the time of capture was 127 degrees, 20 minutes E., 29 degrees, 40 minutes north. The bird was not very fat and not storm driven, as we had experienced only mild weather since leaving port. It was in all probability on its fall migration. The species occurs as a rare winter visitant to the Philippines, Grant having recorded several specimens from northern Luzon and Worcester having killed a single specimen in Mashate.—RICHARD MCGREGOR, *Manila, P. I.*

Cryptoglaux acadica acadica in Placer County.—February 7, 1902, while collecting near Bear River, I observed a small owl, apparently asleep, sitting on a fallen log. I had watched him for several minutes when with surprising quickness he flew from the log to a brush pile eight feet distant. Fearing I might lose him, I shot just as he alighted. He proved to be a saw-whet owl, and lying near him was a mouse still struggling. Evidently Mr. Owl was sleeping with one eye open. This is the only specimen I have met with in this county.

Pigmy owls (*Glaucidium g. californicum*) are occasionally seen here. I shot one on March 24th just at dusk. It flew from a cypress where a member of linnets were going to roost. ERNEST ADAMS, *Clipper Gap, Cal.*

Late Nesting of Arkansas Goldfinch.—On November 22, 1900, I found the nest of an Arkansas goldfinch among the leafless branches of a boxelder. At first glance I thought it was a nest of the previous summer but closer examination showed the tail of the sitting bird sticking over the edge. The nest contained a clutch of four fresh eggs. Being interested in a case of such unusual nesting I kept close watch of the little domicile. All went well for a week when several days of hard rains wrecked the nest. I noticed no further attempt on the part of the parent birds to resume their late housekeeping.—JOHN M. MILLER, *Partier, Cal.*

The Snowflake and Other Unusual Birds at Marysville.—In the winter of 1872 or 1873, at Marysville, during the memorable snowstorm, when snow was six inches deep, a flock of forty or fifty snowflakes (*Passerina nivalis*) stayed fearlessly two or three days on the steamboat landing at the foot of D street, and caused much comment. They were mentioned in the local column of the *Appeal* by someone who gave their latin name. I have not heretofore mentioned their occurrence because I did not get a specimen, and was not positive of the form or species. Although nearly the same list of species can be found in Central California every winter, that was a notable exception. At the same locality in the comparatively cold winter of 1877-78 the northern shrike (*Lanius borealis*) was quite common. I have not seen it at any other time in this state. Fine examples of the so-called hybrid flicker were very common there that winter, and their presence was apparently due to cold weather, for I have scarcely seen one like them since that time. I sent a large fine series to the Smithsonian where, Mr. Ridgway told me, as I remember, they were mounted and placed on exhibition.

The resident species remained and included the mockingbird, Pacific yellow-throat, Lawrence goldfinch, Parkman wren, and many other species. I doubt if the residents had a particle of the migratory instinct. Perhaps they never had any. During snowstorms at Murphys I have been unable to ascertain that the storms drove the residents away from the locality. I once saw a fine male Anna hummingbird feeding in manzanita (*Arctostaphylos*) on the mountain side above Murphys when the ground was covered with snow. Snowstorms seldom occur in the valleys or foothills, and any snow that falls is certain to melt in a day or less.—LYMAN BELDING, *Stockton, Cal.*

Peculiar Habits of a Black Phoebe.—For six years or more, I am told, a phoebe (*Sayornis n. semiatra*) has lived alone at this place and roosted, summer and winter on a branch of a rosebush under a porch. This year from January to June it could be found any night on its perch and seemed no wise disturbed by my frequent visits. In June the rosebush was torn down and for three weeks I could find no trace of the bird. Then it reappeared, alone, and ever since has divided its time between the house and barn. Why has it remained so long unmated? In former years they nested here regularly but the nearest nest this summer was over a mile from here.—ERNEST ADAMS, *Clipper Gap, Cal.*

Destruction of Birds' Eggs: A Query.—I have been greatly puzzled at the wholesale destruction of birds' eggs here, and vigilant watch during the nesting period failed to find the culprits. Early in the season I found shells of three black-headed grosbeak's eggs in a road, at least three yards from any suitable nesting place. The contents of the eggs had been removed through irregular holes about three-sixteenths of an inch in diameter. A few days later eggs of

other birds were found mutilated in this way.

It was my desire to rear a number of nestlings for a small aviary, but of the scores of nests I had to select from, less than a dozen remained undisturbed until the young were hatched. Only nests in and about the orchard were molested, and here I have examined over a hundred shells; a few were broken but most of them had a small jagged hole in the side. Jays and shrikes never venture about the house. A bird must do the work; or if not, what? ERNEST ADAMS, *Clipper Gap, Cal.*

Mossy Murres.—During the summer one often finds on Monterey Bay solitary murres (*Uria californica*) which have not been able to join the hordes of their kind at the regular breeding grounds on the Farallone Islands or elsewhere. Specimens obtained often proved to be remarkably emaciated and so weak as to be unable to fly. Perhaps a failure to properly preen themselves accounts for a greenish or brownish green accretion which forms a zone across the breast and along the sides of the body just at and a little below the water-line. One bird in particular which washed ashore near the Hopkins Laboratory last year had a broad oil green band across the breast. Microscopic examination showed the feathers of this region to be closely covered by attached masses of diatoms. I sent some of these feathers to Dr. George C. Whipple of New York, who identified the prevailing species of diatom as *Fragilaria pacifica* Grum., with some *Meridion circulare*, both of which are figured in Wolle's "Diatomaceæ of North America." The same or similar plants may be found on any floating body such as driftwood, or on piling. The birds with this conspicuous discoloration across the white under surface are sometimes unable to leave the water, the feathers having soaked through, and the whole bird become almost water-logged. These individuals may have become decrepit from old age, or accidentally disabled in some way.—JOSEPH GRINNELL.

The Hummingbirds of Escondido and Vicinity.—Of all the hummingbirds of this locality the black-chinned (*alexandri*) is by far the most common. The first year I collected here the hummers were very common. A small citrus nursery not far from one place seemed to abound with them, nearly all being of the black-chinned variety. Here they build their nests in the young trees, using willow, cotton, and the down from the young sycamore leaves for material. It would be hard to tell how many nests were built and occupied, but at least twenty or more were found containing eggs and young. But where have they gone?

In 1900 there was hardly a nest built in this nursery. My notes show that I observed but two nests of this species during that season, the first one being found May 2, containing one fresh egg, which I supposed hatched with the second egg in time. Two nice sets of Anna hummers were preserved during that season, being taken in May. The composition of the nests was quite different from that of the black-chinned, consisting of withered leaves and feathers, all being covered with the usual amount of spider web. These were placed in oaks well up on the hill side.

I found but four nests of the black-chinned and one of the Anna. I have failed to find this family of birds breeding here as early as recorded further north, my earliest record being that of the Anna just mentioned which was found on March 17, containing two young about one-half grown. I have noticed but one specimen of the rufous hummer here. It was a male late in the summer of 1900, so I have no reason to believe they breed here. To sum up I have recorded two species breeding, black-chinned and Anna together with one probably migratory, namely, the rufous. The Allen variety is found breeding about twenty miles further inland in the pine belt, a friend of mine having found a nest containing two eggs which he collected with one of the parent birds.—NELSON CARPENTER, *Escondido, Cal.*

Confirmation of a Record.—In my Sur River article in the last CONDOR (Vol. IV, p. 125), doubt was expressed as to the proper identity of certain species previously attributed to the region in a published paper by Milton S. Ray. In the case of "*Ammodramus savannarum pallidus*" (= *Ammodramus savannarum bimaculatus*) Mr. Ray has submitted for re-identification the specimen which he secured, thus substantiating his record. A seacoast breeding station for this species seems exceptional.—J. GRINNELL.

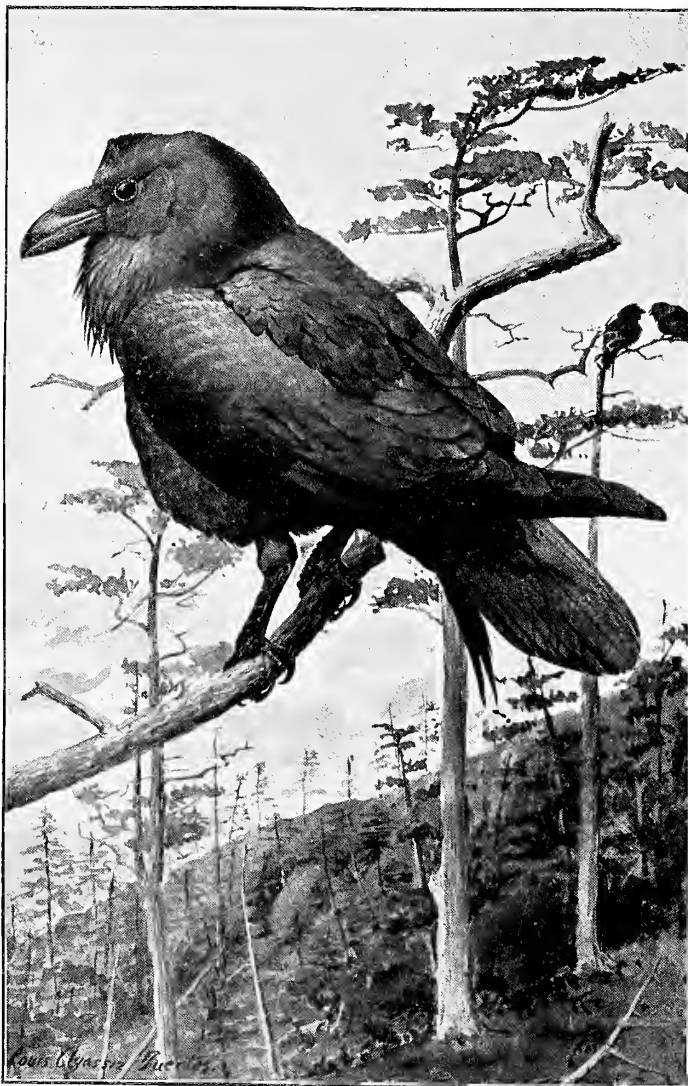
Further Notes on the Pine Siskin —On September 2, I found two nests of *Spinus pinus* containing newly hatched young. As with the majority of birds in this country, it would be difficult to call these second or third sets, as nesting seems to be a continuous performance, and indulged in at any time during the season that a pair of birds happen to feel like it.—J. H. BOWLES, *Tacoma, Wash.*

Query.—Can any of the readers of THE CONDOR give me any information as to best places to go on the Alaskan coast for the purpose of photographing colonies of seabirds?—E. R. WARREN, *Colorado Springs, Col.*

THE EDITOR'S BOOK SHELF

HANDBOOK OF BIRDS OF THE WESTERN UNITED STATES. BY FLORENCE MERRIAM BAILEY. Illustrated by LOUIS AGASSIZ FUERTES and others. Houghton, Mifflin & Co., Boston, Mass. 1902. 12mo. xcii + 486 pages + index; 36 full page plates, 2 diagrams, 601 figures in text. Price \$3.50 net and 19 cents postage.

From HAND BOOK OF BIRDS OF WESTERN UNITED STATES.



BY COURTESY OF HOUGHTON, MIFFLIN AND CO.

NORTHERN RAVEN.

To say that Mrs. Bailey's book "fills a long-felt want," tho literally the truth, puts the matter rather mildly. Up to the present time we have lacked a *scientific* manual of our *western* birds, which could be used alike by beginners and more advanced students. Since 1895 Mr. Chapman's "Handbook of the Birds of Eastern North America" has filled this place for states east of the

Mississippi, and it has remained for Mrs. Bailey to supply the very pressing need in the west. The book is in every way adequate and will certainly exert a very wholesome influence on bird-study in the west, no doubt stimulating to good work many who, heretofore for lack of proper literature, have felt their enthusiasm scarcely equal to the task of mastering our perplexing avifauna. I suppose there is scarcely a Cooper Club member who has not longed for a handy little volume to carry to the mountains or elsewhere during excursions afield. The "Handbook" will supply this want.

The book opens with an essay by Vernon Bailey on "Collecting and Preparing Birds, Nests and Eggs," which will prove very useful to the beginner. This is followed by sections on: "Note-taking, Note-books and Journals," "Life Zones," with chart; "Migration," "Economic Ornithology," "Bird Protection" by T. S. Palmer, and "Local Lists," giving lists of birds from Portland (A. W. Anthony); San Francisco Bay (water birds, W. H. Kobbe); Santa Clara Valley and Santa Cruz Mts. (land birds, W. K. Fisher); Pasadena (J. Grinnell); Ft. Sherman, Idaho; Cheyenne, Wyo.; Pinal, Pima and Gila Counties, Arizona. Following this comes "Books of Reference," including general works, periodicals, state lists, special subjects and popular works. For the benefit of the beginner is a note on "Use of the Keys."

The systematic portion, which treats of species west of the one-hundredth meridian is divided into Water Birds and Land Birds, very clear and concise keys being given to the orders and families of each. The line figures of feet and heads render the use of these keys especially easy. There are likewise genera and species keys in their proper places. Under each genus heading is given a short statement of general characters, and the accounts of species include a brief description of plumages, together with a note on distribution, the description of nest and eggs, food, and in most cases a sketch of the habits and personality of the bird. Many of these biographical notes have been contributed by Vernon Bailey. The text is further embellished with figures of birds, and heads, from drawings, and from photographs of skins. It is unfortunate that the requirements of space necessitated an over-reduction of some of the illustrations, and thereby impaired their usefulness. This is true of only a small portion. The task of finding a bird's name has surely been reduced to a minimum. We believe it has again been demonstrated that the easiest way to identify a bird is to begin at the bottom, and to progress by using characters of real weight in classification. Many ultra-popular books have attempted to point out a royal road with grotesque keys, founded on superficial and "catch" characters, which, besides being totally inadequate, must have left the novice in a very hazy state of mind.

In nomenclature the author has wisely conformed to the A. O. U. Check-list "except that modern scientific usage has been followed in dropping the possessive form in vernacular names of species." In the rather difficult task of fitting the Check-list to our western avifauna, she has been singularly successful, largely by the sensible course of including the many recently described forms in foot-notes, with references to the original description. With this equipment both 'splitter' and 'lumper' should feel equally at home with the "Handbook."

This short notice would be eminently incomplete if mention were not made of the thirty-six well-executed full-page plates by Louis Agassiz Fuertes. Especially worthy of praise are all of them, but we find it difficult to control our enthusiasm in the case of several, particularly the Northern Raven, which is herewith reprinted, thru the courtesy of the publishers. Mr. Fuertes work is always good, but we believe this about his best.

It is difficult to do justice to a book of this character in so brief a space, and as we have already given our candid opinion of it we would close by advising all readers of this magazine to procure a copy.—WALTER K. FISHER.

THE BIRDS OF NORTH AND MIDDLE AMERICA: A DESCRIPTIVE CATALOGUE OF THE HIGHER GROUPS, [etc., 6 lines]. By ROBERT RIDGWAY. Part II. Family Tanagridæ.—The Tanagers. Family Icteridæ.—The Troupials. Family Cœrebidæ.—The Honey Creepers. Family Mniotiltidæ.—The Wood Warblers. Washington: [October] 1902. (=Bull. U. S. Nat. Mus. No. 50, Part II.) Pp. i-xx, 1-834, plates I-XXII. (Outline figures of generic characters).

Part II of Ridgway's "Birds of North and Middle America" arrived on this coast in the latter part of October, a little less than a year after the first volume. Considering the immense amount of work involved it is still more surprising when we learn from the Preface that the remaining volumes are expected to go to press from now on "at the rate of two a year." Even granting that Mr. Ridgway has been compiling the subject-matter for many years, one cannot help wondering at the amount of work required alone in keeping the synonymies up to date, for we find references quoted well into 1902.

The general plan of the whole work has already been referred to, in the CONDOR of January, 1902. It happens that the present installment has mostly to do with tropical groups, including

the numerous tanagers, troupials and honey creepers. Its bearing on California ornithology is not so great as that of Part I because fewer of our species are treated. These are mostly warblers, and among them a new form is named, *Wilsonia pusilla chryseola*, the golden pileolated warbler. Unfortunately neither type nor type locality is indicated, though we may judge the latter to be somewhere in southern California. The form is readily distinguishable from the Alaskan race, *Wilsonia pusilla pileolata*, by smaller size and much yellower coloration.

Dendroica townsendi is said to breed "from mountains of southern California" northward. We were not aware that the species had ever been found nesting within the state. California is denied a record of *Seiurus noveboracensis notabilis*. A very good one would have been found in Belding's "Land Birds of the Pacific District," which by the way seems to us as citable in synonymy as any paper ever published on West Coast birds. But these possible lapses are not serious and no one could be expected to compile a work covering so large a region without falling into at least a small percentage of errors.

We are informed that Part III will be out before long. This will deal with the swallows, shrikes, vireos, crows, jays, titmice, nuthatches, creepers, wrens, etc., all groups well represented in our ornithology. Consequently we shall await Part III with unusual anticipation. It is not exaggerating to aver that Mr. Ridgway is accomplishing the largest and most useful piece of systematic bird work ever carried out by one man.—JOSEPH GRINNELL.

BIRDS OF THE HAWAIIAN ISLANDS. By H. W. HENSHAW. Thos. G. Thrum, Publisher, Honolulu, H. T. 12 mo. 146 pages, 1 plate. Price \$1.00.

In this admirable paper Mr. Henshaw has brought together in a thoroughly satisfactory manner, the result of his studies on Hawaiian birds. As a sympathetic and keen observer of Nature, the author is well known, and the present treatise is easily the best work we have on the 'natural history' of the island avifauna.

Part I consists of introductory matter, describing Hawaii as an Ornithological Field, Obstacles to Ornithological Studies in Hawaiian Islands, Destruction of Hawaiian Forests, Environmental Changes Disastrous to Hawaiian Birds, Faunal Zones, Diseases of Hawaiian Birds, Origin of Hawaiian Birds, Ornithological Knowledge of Hawaiian Natives, and History of Ornithological Investigations in the Islands, all of which is remarkably interesting reading. Part II is the "Descriptive" portion. Under each species is given a biographical sketch and a short description. The author's wide field experience with the birds of Hawaii is supplemented by information from Rothschild's, and Wilson's works. It is probable that few persons in this country have any conception of the difficulties attending the observation of native land birds in the islands. Mr. Henshaw's contribution is therefore so much the more valuable, and it is fortunate that the Hawaiian avifauna is now being so carefully studied, for many forms will doubtless soon disappear.

Ten exotic species have become naturalized in the group. Our own linnet is very much at home, and the California quail once was more abundant than now. The skylark is also common on some of the islands.

A table showing the distribution of birds "by islands" concludes this valuable paper.—WALTER K. FISHER.

A BIOLOGICAL INVESTIGATION OF THE HUDSON BAY REGION (N. A. Fauna, No. 12) is a valuable piece of faunal work by Edward A. Preble.

BIRDS OF A MARYLAND FARM is a very suggestive paper on "A Local Study of Economic Ornithology" by Dr. Sylvester D. Judd. The author confined his investigations to a farm on the Potomac River, and secured some interesting results. (Div. of Biological Survey, Bulletin 17.)

Messrs. Dana Estes & Co. announce that the fifth revised edition of the KEY TO NORTH AMERICAN BIRDS by Dr. Elliott Coues, will be ready in the spring of 1903. The unusual delay has been caused by the difficult 'copy' which the complete at the time of Dr. Coues' death, was rendered hard to decipher without the exercise of the most intelligent care by reason of innumerable interlineations, erasures, abbreviations, 'riders' and detached notes written in a minute and sometimes difficult handwriting. The prospectus includes many attractive features.

CORRESPONDENCE

TO THE EDITOR OF THE CONDOR:

In a review of my paper on Alaskan birds, published in your issue for November-December, 1902, it appears that in my published writings I have not made clear my position in regard to the desirability of recognizing geographical races of birds in nomenclature and I beg of you space in which to reply to your reviewer's claim that my "scientific" work is not in harmony with my views expressed in another connection.

My protest against the description of geographical races is not indiscriminate. It is directed toward the large amount of unsound work of this kind which has done so much to bring systematic ornithology into disrepute among those who cannot distinguish between the good and the bad.¹ It is not only from this, and, from what may be termed the popular point of view, that these attempts to burden our nomenclature with baseless names are to be deprecated. There are sound scientific reasons against these efforts to name definitely the indefinite. They are admirably expressed by Mr. Joseph Grinnell in your issue for July-August, 1902, page 96; Mr. Grinnell in questioning Mr. Oberholser's reference of a horned lark from Stockton, Cal., to *leucolæma*, writes: "Now may not this individual, showing an aggregate of characters nearest *leucolæma*, be not simply an individual extreme of, say, *merrilli*; which occurs in numbers in the same locality at the same season? . . . Is there not danger of denoting such extreme individuals by the names of similarly looking subspecies when their real affinities are not with those races at all? It is very evident that mistakes of this kind will lead to wrong deductions in regard to migratory movements, and distribution in general, which is after all where the chief value of distinguishing geographical races comes in."

This is well put and the same argument could be used in many cases to show that in such important phases of bird study as migration and winter distribution excessive subdivision is positively prejudicial to accurate work.

The question who shall decide what birds are "worth the naming" has only one answer; the American Ornithologists' Union's Committee on Classification and Nomenclature is the court in which a bird's claims to recognition by name are to be established. Composed of seven expert ornithologists, representing varying points of view, no better judicial body can be obtained. Let us see, then, what has been this Committee's attitude toward the systematic work of the past sixteen years.

At the twentieth Congress of the American Ornithologists' Union, held in Washington, D. C., in November last, Dr. J. A. Allen presented a paper on this subject entitled 'The A. O. U. Check List—Its History and Its Future,'² in which it was shown that only 52 per cent of the proposed modifications in the "Check List" have been endorsed by the A. O. U. Committee on Classification and Nomenclature. Dr. Allen adds: "If there had been no Committee to which these 500 or more questions could have been referred for a formal verdict it is perhaps easier to imagine than to describe what would have been the condition of the nomenclature of North American birds in 1902."

Thus it appears that the protest against much of the systematic work of today comes not only from "specimen labelers and popular writers," as my reviewer tells us, but from the representative, scientific ornithologists composing the A. O. U.'s Committee on Classification and Nomenclature—a very practical kind of protest which, as Dr. Allen well states (l. c.), has saved us from "chaos."

Yours respectfully,

FRANK M. CHAPMAN.

American Museum of Natural History, New York City, Dec. 19, 1902.

EDITOR OF THE CONDOR:

I note that a correspondent in the November-December CONDOR, "raises a voice of protest" against what appears to him to be a "cruel indifference" to or a lack of sympathy with bird life. The present writer, without raising his voice to any unpleasant inflection, would like to whisper a few mild suggestions to the Pasadenan.

My friend, convictions are fine things to have, and we are honored in their possession. But it is usually best to keep them, for the disseminators of convictions may do a lot of good—or otherwise. I fear in the present instance, however praiseworthy your intentions, it was—otherwise.

Larger men than you and I, my friend, have smote the air on this question and left no impression on the breezes which blow where the birds still sing over their graves. There is good and bad in it, and it will take more than plenty of ink and a pen to settle the question to the sat-

¹ Cf. *Science*, 1901, p. 316; 1902, p. 229.

² See *The Auk*, Jan. 1903, pp. 1-9.

isfaction of all concerned. I could argue it, and ask which does the most harm, a spyglass ornithologist with a ready imagination, who describes things we never heard of before (and which never really happened), or a sane student of birds who is obliged to use a gun, and whose writings may be depended upon for information and not for imagination? I might do this, but I prefer not to walk in where angels fear to tread.

There are several things well said, and sentiments given noble expressions in your communication, and with these I have no quarrel; but it is the evil men do that lives after them. It is the evil of the writer who talks of "dead and stuffed bird skins," who strains a point to serve his argument, even though the ill-judged reflection be at good men and better ornithologists than he. Here is where the damage of careless spilling of ink on these questions comes in.

You are not fortunate in paraphrasing what you say is a "very bad popular saying," concerning Indians, as, that collectors seem to believe "the only good bird is a dead bird." It may be to your mind a very bad saying that "A good Indian is a dead Indian," but very often it has been true. The late Major Bendire hunted Indians and birds in the same country and killed both with equal lack of compunction, when the blood of murdered settlers cried aloud for vengeance, or the authorities at the National Museum wanted positive identification. A dead Indian was a very good Indian to Major Bendire, and a dead bird in the hand looked better to him where the identity of a rare set of eggs was in question than a squint at a bird through a glass. He used the spyglass on the Indians.

You refer to an "interesting and excellently written article" in the September-October CONDOR on the rufous-crowned sparrow, "the description of a social colony on a little hillside opposite a schoolhouse," and add "where the birds obtained a part of their living no doubt from the scraps remaining of the children's lunches." Then you go on to speak of these "feathered friends" which the teacher, "if she was up-to-date," you think, taught the children to love and protect.

You don't know anything about it, but to add a nice little pathetic touch you "think" all this! Then you go on to score the ornithologist who "collected" the parent after finding the nest, as you say, "merely for dissection to show that her nest of eggs was complete." This statement is not merely absurd, for it is at variance with the facts; it does injury.

The schoolhouse referred to (and I know the country) is properly speaking, in the mountains, and if the nice little school boys spoken of were able to get anywhere near these wary sparrows they probably used a slingshot on them. Without the bird for positive identification the valuable and interesting article, which the southern critic praises so highly, would never have been possible. The bird was shot and properly shot, for identification, as the set of eggs was extremely rare, and was not sacrificed merely to satisfy a puerile curiosity as to a full nest complement, as the well-meaning critic asserts. Without positive identity what could have been written as to the singular differences in color of eggs of this same species? As to the number of skins secured from this favored patch of hillside, the species is rare, and doubtless they are needed in collections. Certainly they will not be missed up there in the hills where we may infer the "Dago" school boy, if he takes notice at all, shies stones at them on his happy schoolward way. There will be rufous-crowned sparrows on many a hillside when you and I are where the daisies grow!

H. R. TAYLOR.

Alameda, Cal.

GENERAL NEWS NOTES

The American Ornithologists' Union held its twentieth Annual Congress at Washington, D. C., November 17-20, 1902. All the officers for 1902 were re-elected. Harry C. Oberholser was chosen Fellow and the following Members were added: Andrew Allison, Paul Bartsch, A. C. Bent, W. C. Braislin, Hubert L. Clark, A. H. Howell, E. A. Goldman, F. H. Knowlton, A. H. Norton, T. G. Pearson, S. F. Rathbun, P. M. Silloway, and C. O. Whitman. The program was one of unusual interest and the attendance exceeded that of any previous meeting. The Union will meet in Philadelphia, November 16, 1903. (See Editorial column).

During the Christmas vacation W. W. Price, as has been his wont in past years, took a party of young men on a hunting and collecting expedition. Last year they descended the Colorado from The Needles in boats, and the two seasons previous were spent on the Colorado south of Yuma, and about the head of the gulf. This year the party penetrated the mountains of northern Sonora in quest of big game. Mr. Price is well known as a prince of good fellows in camp, and it is probable the party had a thoroughly enjoyable time, besides acquiring valuable material. Later we hope to publish an account of the trip.

When we last heard from Joseph Mailliard he was in Valparaiso, Chile, and not altogether infatuated with the place. He finds that he arrived during the closed season for game, and as all birds are classed as such, the outlook for collecting is hardly reassuring. A stranger is able to collect only on large ranches where the owner is sufficiently prominent to hinder constant molestation by "minions of the law." We hope our friend has found the situation more favorable than the outlook would seem to have indicated and has already an interesting representation of native birds.

Recently we had a letter from E. A. Goldman from Zacatecas, which is one of the famous old mining cities of Mexico. At present writing Mr. Goldman is collecting near Ocotlan, Jalisco, in the interests of the Biological Survey.

Wilfred H. Osgood paid us a flying visit en route to Washington from Alaska, where he has spent the summer in the interests of the Biological Survey.

Lyman Belding, our veteran ornithologist, is now at Pacific Grove. Mr. Belding and the Editor spent two pleasant days along the coast in quest of waterfowl.

Joseph Grinnell visited his home in Pasadena during Christmas week and was present at the annual meeting of the Southern Division.

When last heard from, R. H. Beck was in Washington, D. C., hatching schemes for a new collecting trip.

Malcolm P. Anderson recently returned from a collecting trip on the Stikine River, Alaska.

Ralph Arnold is now in Washington, D. C.

MINUTES OF CLUB MEETINGS

Northern Division

NOVEMBER.—The Northern Division met at 405 Kipling St., Palo Alto, November 1, 1902, President Grinnell presiding. In the absence of Mr. Barlow, T. J. Hoover was appointed secretary pro tem. The club then listened to a talk on the "Birds of Laysan Island," by W. K. Fisher. A paper on the "Faunal Areas of California," by Frank Stephens, was read. Mr. Grinnell told of his experiences with "Mother Cary's Chickens" on Los Coronados Islands. After a short recess the minutes of the previous meeting were read and approved. W. M. Pierce was elected to active membership and Messrs. H. W. Fowler, J. M. Miller and Miss Agnes Frisius were proposed for membership. A communication from Mr. A. M. Shields tendering a gift of birds and eggs to the Club Museum was read, and the President on motion was instructed to appoint a committee to visit Mr. Shields. T. J. Hoover was appointed as a committee. The Club here adjourned by declaration of the President to discuss a subtle brew. After refreshments a communication from Frank Stephens proposing the preparing of a map showing the faunal areas and life zones in California was discussed. After other sundry business nominations for officers for the year 1903 were then called for. Mr. Barlow was nominated for President. For Senior Vice-President, Messrs. Hoover, Emerson and Snyder; for Junior Vice-President, Messrs. Emerson, Thompson, Skinner, Cohen and Keyes. Mr. Keyes was nominated for Secretary. The following nominations for Business Manager-Treasurer were made: C. Barlow, J. Grinnell, T. J. Hoover.

Mr. Emerson invited the Club to hold its Annual Meeting at his home in Haywards. The Club then adjourned to meet at Haywards, January 10, 1903.

T. J. HOOPER, Secretary pro tem.

JANUARY.—The ninth annual meeting was held at the residence of W. Otto Emerson, Haywards, Saturday evening January 10. The gathering was one of the largest in years, there being about eighteen members present and a goodly number of visitors. Mr. Henry Reed Taylor was unanimously elected President for 1903. The full minutes will be published in the March issue.

Southern Division

NOVEMBER.—The Division met at the residence of Mr. F. S. Daggett, Pasadena, on the evening of Friday, Nov. 28. Mr. Daggett presided and there were five other members present, Messrs. B. Franklin, O. W. Howard, Edw. Howard, Prof. Conant and H. S. Swarth. Mr. Chas. Richard-

son was present as a visitor. Mr. Daggett proposed the name of Mr. Chas. Richardson for active membership; and the resignation of Dr. J. H. McBride was tendered and accepted. The nominations for officers for the ensuing year took place and the following names were proposed: President, F. S. Daggett; Vice President, Howard Robertson; Secretary, H. J. Leland; Treasurer, W. B. Judson and H. S. Swarth.

H. S. SWARTH, Sec'y pro tem.

JANUARY.—The annual meeting of the Southern Division was held on Saturday evening, January 3, 1903, at the residence of Mr. F. S. Daggett, Pasadena, with the following members present: Messrs. W. B. Judson, H. J. Leland, H. Robertson, H. S. Swarth, Prof. Conant and Chas. Richardson. Joseph Grinnell, President of the Club at large, and Fordyce Grinnell were also present.

The death of Mr. A. Stert was reported and the Secretary was instructed to prepare a suitable memorial. Mr. Chas. Richardson, whose name was proposed for active membership at the October meeting, was duly elected to membership. Mr. Daggett proposed the name of Mr. Herbert Brown for membership. The election of officers to serve during 1903 resulted as follows: President, F. S. Daggett; Vice-President, Howard Robertson; Secretary, H. J. Leland; Treasurer, H. S. Swarth. Mr. Daggett reviewed in general the work during the past year by the members of the Southern Division and made some valuable suggestions for future study. A temporary adjournment was taken to another room where refreshments were served. Mr. Grinnell was installed in the chair and he addressed the meeting on the past work and future plans of the Club organ, THE CONDOR. Mr. Swarth exhibited a number of skins of the rarer Arizona birds, among which were specimens of the black-fronted warbler, painted redstarts, mountain song sparrows, rivoli, broad-billed, and white-eared hummingbirds, olive warbler, yellow-throat, etc. Mr. Daggett exhibited several skins of the bicolored and red-winged black birds, pointing out the difference of the true bicolor variety and that supposed to be bicolor taken here. Later in the evening he presented a paper "Agelaius gubernator," which covered his illustration entirely. Meeting adjourned.

HOWARD ROBERTSON, Secretary.



PHOTO BY E. C. STARKS

HAPPY NEW YEAR!

THE CONDOR

An Illustrated Magazine of Western
Ornithology

Published Bi-monthly by The Cooper Ornithologi-
cal Club of California

WALTER K. FISHER, Editor, Palo Alto
JOSEPH GRINNELL, Business Manager and
Assistant Editor, Palo Alto
FRANK S. DAGGETT, Associate Editor

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EDITORIALS

Years are longer here in California than in most places east of the Sierras, but despite that they go quickly enough. Few of us realize that THE CONDOR is commencing its fifth volume. Four years make but a short period in the span of a man's life, but time is not necessarily a yard stick for experience. Those who were responsible for the magazine had new worlds to conquer, and much has been accomplished in a short time, even under many distinct drawbacks. It has been amply demonstrated that some medium of publication or interchange of ideas is vital to the welfare of any organization, great or small, and the experience of the Cooper Club has certainly been no exception. With the founding of the "Bulletin" new interests arose to meet added responsibilities, and fresh enthusiasm rapidly increased the operative force, until now we have enlisted more active workers within a limited field than any other organization with similar ideals.

While we, as a club, reflect with pardonable pride on the good results of this laudable movement, we must not forget that the result has been accomplished only by steady and continued effort. He, who more than any man has been responsible for the growth and prestige of the club, has passed quietly from among us. Had there been no Chester Barlow the Cooper Club would not be here today, and there would be no occasion for these words. As Mr. Taylor well says, Barlow *was* the Club, and there are few of us indeed, who escaped his contagious enthusiasm. In common with many organizations of a similar nature, our club has passed thru trying times, and it was only by virtue of a compelling personality to take the lead, that the society lived to tell the tale. But all this is now ended, and we have surrounded

ourselves with safe-guards for continued usefulness. So much for the work of our departed friend. As a club we can do no better to show our appreciation of his efforts than to continue the good work he did so much to perpetuate. Actions speak when words are silent, and it behooves everyone to lend a hand. Whatsoever is worth while has its cost, and in this case the price is work and thought—not spasmodic, but steady and efficient. The boom days of our existence are now over and we have settled down into a conservative epoch of hard work, not with diminishing enthusiasm but with even added strength to meet the demands of our increasing responsibilities.

Our Tenth Anniversary meeting will come off in May, and everyone should plan to attend in order to make the occasion the most successful in the history of the Club. Altho not definitely decided upon as yet, the meeting will extend over several days and will take place at the time of the regular bi-monthly session, early in the month. In our next issue we hope to publish definite arrangements.

In this connection it is a pleasure to note that a number of eastern ornithologists have signified their intention of visiting the Club and holding an "extra session" of the A. O. U. out on the coast, at the time of our tenth anniversary meeting. In the last August CONDOR our late editor strongly advocated holding an A. O. U. meeting somewhere in California, and it is gratifying that the suggestion met with such quick response. Altho the contemplated visit is now only a probability, we hope it will shortly assume the shape of reality. If we read the signs aright our spring meeting, combined with that of the American Ornithologists' Union, will mark the beginning of a new era in the activities of the Club, and will infuse an added interest and enthusiasm for future work. It will also bind in closer ties the western and eastern workers, and bring to each group a clearer understanding of what the other is trying to do.

During 1903 THE CONDOR will pursue much the same course as in past years, endeavoring to present the freshest bird news in each number. If any policy is followed it will be to emphasize the study of bird habits and everything that pertains to the domestic economy of our western species. Sketches of expeditions and trips afield will be contributed by those prominent in such work, and there will be also many articles on nidification and life history, besides faunal and technical papers from time to time. In each number will be published the portrait and a short sketch of a prominent eastern ornithologist. The interests of the Club-at-large will, as heretofore, occupy a prominent place. We hope during 1903 to make a bigger showing in the number of our contributors than ever heretofore.

California is a big state, and our members are scattered pretty well from one end to the other. Our circles of acquaintance are limited, and THE CONDOR proposes to enlarge them, if the scheme strikes all concerned favorably.

In each number we would like ANENT A to publish the portraits of say six SCHEME members, and to continue these symposia as long as possible. Of course the matter rests with you, the Club members. If you like the idea, signify your approval by sending us your photograph and we will begin the series as soon as there are portraits enough to insure success.

In the current volume and those to follow THE CONDOR will endeavor to present as many short notes as possible. We believe no one feature has so much intrinsic value. With this end in view we ask every one to explore his past experiences, at home A REQUEST or afield, for items. Do not wait for remarkable or unusual incidents. One must remember that there are plenty of facts to be learned about our commonest birds, and that what thru familiarity may seem commonplace with you, usually is interesting to others. At any rate send in plenty of short notes, and let us be the judge.

We mail with this issue the index to volume IV, which has been carefully prepared by Mr. Grinnell.

To Mr. H. R. Johnson of Stanford we extend our best thanks for designing the magazine heading.

THE CONDOR is now mailed from Palo Alto tho still printed by Mr. Nace in Santa Clara. The change was made to avoid the confusion occasioned by the shifting of the editorial office.

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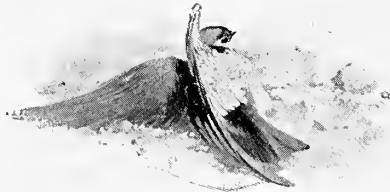
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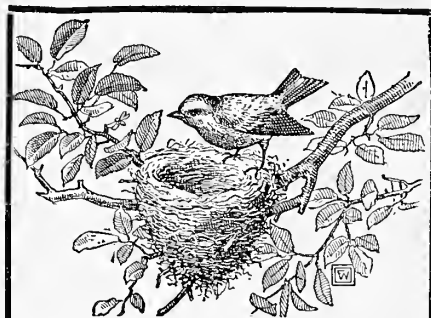
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Volume V

March-April, 1903

Number 2



COOPER ORNITHOLOGICAL CLUB



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KEAM CANYON, ARIZONA.

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Volume V

March-April, 1903

Number 2

A Partial List of the Birds of Keam Canyon, Arizona.

BY A. K. FISHER.

IN the summer of 1894 the writer had occasion to visit Keam Canyon, Arizona, for the purpose of studying the mammals and birds of the region. To reach this interesting locality it was necessary to make a stage trip of over twenty-four hours duration, northward from the town of Holbrook on the Santa Fe Pacific Railroad.

Leaving Holbrook on the morning of July 17, 1894, we soon ascended the limestone rim of the Little Colorado Valley and passed out upon the mesa beyond. Off to the northward the distant landscape was clothed in a delicate purple, the varying shades producing an effect of surpassing beauty and one not easily forgotten. From this point of vantage it could be seen that beyond the Le Roux wash twenty miles away the route gradually ascended toward the distant horizon, and promised to be more interesting than the sandy waste immediately before us. The long journey through the day and night was at times somewhat monotonous, but as one of the horses had previously never worn harness, it was prudent to be watchful. North of the Le Roux wash we passed one of the big corrals with long extending wings, now falling into decay, into which in the early days of plenty the Navajos used to drive whole bands of antelope. It was admirably situated for the purpose in a depressed valley, the steep sides of which together with the supplementing fence of interwoven juniper and pinyon boughs, made it impossible for the animals to escape when once they had entered.

Late in the afternoon a heavy thunderstorm broke upon us and the deluge soon filled the washes, so that within one short hour their beds of dry, burning sand were swept by roaring, seething masses of turbulent waters, which made traveling in the low country anything but certain. At one place just at dusk we passed a lot of naked Navajos who had taken advantage of the rain and were busily engaged in drowning out prairie dogs by directing the streams of water into

the burrows. As the young animals were nearly grown and each burrow contained from six to eight individuals, the Indians must have received a generous supply of meat. After night-fall our journey was less wearisome, the rain had ceased, the treacherous washes were less frequent or formidable, the unruly horse had settled down to an even pace, and we rode along with comparative comfort. From time to time the shadowy form of a passing Indian, or the dim outlines of the hogans showed that we were among the Navajos and gradually approaching our destination.

Keam Canyon lies within the Moki Reservation, eighty miles north of Holbrook and about one hundred miles northeast of the San Francisco mountains, the highest peak of which is plainly visible from the bluff shown in the accompanying plate. The Moki name of this mountain is Ne-vat-i-kiobi, which means the house of the snow. At the trading post of Mr. T. V. Keam, in the vicinity of which most of the observations in the present paper were made, the trend of the canyon is towards the northwest, but a few miles lower down it turns to the west and broadens into a more extensive valley. Thirteen miles from this post is the Mesa, on which the Moki pueblos of Tewa, Sichumovi, and Wolpi are situated. The portion of the valley which interests us is from 400 to 800 yards in width and is depressed one hundred feet or more below the surface of the surrounding mesa. The side walls are picturesque and present an endless variety of forms, from clear cut perpendicular cliffs to masses of giant boulders interspersed with a more or less luxuriant growth of pinyon and juniper. Erosive action has left its mark in the softer material, and produced caves of varying size which furnish homes for some of the birds and mammals of the region. Out-croppings of coal are quite numerous, and heaps of ash, together with bits of pottery, show where the aborigines utilized this fuel in the preparation of their wares.

The canyon is well known to many anthropologists and others who are interested in the ritual customs of the Moki, and who have traversed the long stretches of desert between the little town of Holbrook and the cliff dwellings on the First Mesa to witness the celebrated snake dance and other Tusayan ceremonies. Mr. Keam's genial hospitality towards the many strangers who have visited this far-off land is proverbial and has earned for him a wide reputation.

Anyone unacquainted with the conditions of bird life in the arid regions would be disappointed with the small number of species found at Keam Canyon, and would be surprised at the meagre representation of most of them. Although considerable time between July 18 and August 3 was devoted to exploring the canyon and surrounding mesa for the purpose of observing birds, only thirty-nine species were found, and of these seven were included on single records. The doves (*Zenaidura macroura*) were fairly common throughout the canyon, and considerable numbers visited the little rivulet that flowed from a covered spring in a side canyon back of the house, where they bathed and drank at all times of day from sunrise until long after dark. Turkey vultures (*Cathartes aura*) were almost always present, and about fifty roosted in a clump of dead pinyons below the northwest rim of the canyon within plain view of the house. Among the birds of prey the little sparrow hawks (*Falco sparverius deserticolus*) were the commonest, and were often seen hunting for lizards and insects, or flying about their nesting places in the crevices and erosions of the canyon walls. One prairie falcon (*Falco mexicanus*) was seen on July 18, and a week later a fine adult duck hawk (*Falco peregrinus anatum*) flew close to the house toward evening and disappeared along the edge of the cliffs beyond. Although no golden eagles (*Aquila*) were seen at large, as many as a dozen were counted at the Moki pueblos, where they are used in con-

nection with certain ceremonies. The western redtail (*Buteo borealis calurus*) was seen daily, and on one occasion a few characteristic feathers lying beside a half-eaten jackrabbit showed almost conclusively the author of the good work. The great horned owl (*Bubo*) was not seen, but its wierd notes were occasionally heard at dusk and early morn. Tracks were seen of the roadrunner (*Geococcyx californianus*) which is well known to the Mokis under the name of Hosh-bo-a.

A solitary hairy woodpecker (*Dryobates villosus* subspec?) which busied itself among some pinyons and junipers along the canyon wall was the only representation of the family observed. A fine specimen of poorwill (*Phalænoptilus nuttalli*) was secured on the evening of July 19 as it was flying over the canyon bottom in front of the house. It would have been impossible to have seen it but for the light color of the ground over which it passed, like a fleeting shadow, in pursuit of insects. The Mokis who saw the specimen were much interested in it and designated it by the name of Ho-witz-ko. Nighthawks were common and were heard booming every evening. A colony of white-throated swifts (*Aeronautes melano-leucus*) bred in the holes in the canyon walls back of the house, and were almost always in sight, skinning rapidly along the edge of the mesa or darting out high over the valley into which, however, they rarely descended. A female black-chinned hummer (*Trochilus alexandri*) was secured on July 31, from its perch on a dead-topped juniper, and a fine male rufous hummer (*Selasphorus rufus*) was killed July 30 among some flowers along the edge of a trail. Several other hummers were seen at different times, but at too great a distance for positive identification. Among the flycatchers the Arkansas kingbirds, ash-throated flycatchers and Say phœbes were seen, the latter, which lived among the giant boulders of the canyon walls, being the most abundant. Pinyon and Woodhouse jays were seen every day on the mesa and a few were seen flying across the valley. Although the season was not far enough advanced for the pine nuts to contain kernels, nevertheless cones were found which had been mutilated by these jays.

The raven (*Corvus corax sinuatus*) is one of the commonest birds in the valley, and on account of its great fondness for corn and melons is one of the most troublesome to the Mokis. Hundreds congregate along the edges of the cliffs and other prominent places in the vicinity of the gardens, and should the old women who are placed on guard to watch the fields from early morn until nightfall relax their vigilance for a moment, the birds are sure to take advantage of the opportunity. The gray vireo (*Vireo vicinior*) was tolerably common, though its presence might easily have been overlooked except for the characteristic song which was often heard while the birds remained hidden amid the dense foliage of the pinyon and juniper. A thrasher, which the Mokis called Kot-to-zi, was not uncommon, but was extremely wary and difficult of approach. It was not satisfactorily identified until July 31 when a chance shot secured a specimen which proved to be the Bendire thrasher (*Toxostoma bendirei*). This capture would have been a surprise but for the taking of an immature bird at Holbrook a short time previously. This species, which is commonest throughout the area occupied by the giant cactus, evidently has extended its range to this remote corner of Arizona by a route along the Colorado and Little Colorado Rivers and their tributary valleys.

The following list includes all the species observed. Though the number represented is not large and the species are not especially interesting, the fact that the list covers a comparatively little known region is considered a sufficient excuse for its publication:

<i>Zenaidura macroura</i>	<i>Cyanocephalus cyanocephalus</i>
<i>Cathartes aura</i>	<i>Icterus bullocki</i>
<i>Buteo borealis calurus</i>	<i>Carpodacus mexicanus frontalis</i>
<i>Aquila chrysaetos</i>	<i>Chondestes grammacus strigatus</i>
<i>Falco mexicanus</i>	<i>Spizella socialis arizonæ</i>
<i>Falco peregrinus anatum</i>	<i>Amphispiza bilineata desertycola</i>
<i>Falco sparverius deserticolus</i>	<i>Petrochelidon lunifrons</i>
<i>Bubo virginianus pallescens</i>	<i>Tachycineta thalassina</i>
<i>Geococcyx californianus</i>	<i>Stelgidopteryx serripennis</i>
<i>Dryobates villosus</i> (subspec?)	<i>Lanius ludovicianus excubitorides</i>
<i>Phalacroptilus nuttalli</i>	<i>Vireo vicinior</i>
<i>Chordeiles virginianus henryi</i>	<i>Mimus polyglottos leucopterus</i>
<i>Aeronautes melanoleucus</i>	<i>Toxostoma bendirei</i>
<i>Trochilus alexandri</i>	<i>Salpinctes obsoletus</i>
<i>Selasphorus rufus</i>	<i>Catherpes mexicanus conspersus</i>
<i>Tyrannus verticalis</i>	<i>Parus inornatus ridgwayi</i>
<i>Myiarchus cinerascens</i>	<i>Psaltriparus plumbeus</i>
<i>Sayornis saya</i>	<i>Polioptila plumbea</i>
<i>Aphelocoma woodhousei</i>	<i>Sialia arctica</i>
<i>Corvus corax sinuatus</i>	

Feathers Beside the Styx.

BY EDGAR A. MEARNS.

STRANGERS to the Yellowstone National Park are apt to regard the truest statements respecting its wonders as nothing short of startling. Possibly their confirmation may cause the pendulum of credulity to swing too far in the opposite direction. Certain it is that some of the tales of the Park to which credence is generally attached require scientific corroboration, and none more so than those which relate to supposed death pens in which animals, large and small, perish in numbers.

When traveling with my wife through the Yellowstone region, fourteen years ago, vague accounts reached us of hollows and places filled with deadly gases into which all creatures passing must leave hope and life behind. These whisperings, later, culminated in the story of the tragic death of "Wahb," the grizzly, from the facile pen of Ernest Thompson Seton. On returning to the Park, in April, 1902, I learned that to doubt the existence of a valley or canyon of death, bestrewn with the decaying carcasses of bears and other beasts, somewhere in that region, was to display hopeless ignorance of fact. Men of high position and undoubted veracity had testified, as eye-witnesses, to these things; but Captain Hiram M. Chittenden, U. S. A., an engineer officer charged with carrying on extensive improvements now in progress in the Yellowstone National Park, tells me that, notwithstanding his great familiarity with the topography of the Park, no such place is known to him. When such an alleged locality was reached the huge dead beasts had vanished, and no more than a fragment of bone such as might be found anywhere in the region was visible.

Though we were unable to set foot on the bank of a veritable River Styx, any

tourist may conveniently visit the "Stygian Cave," at the Mammoth Hot Springs, and find there the bodies of many little birds whose spirit passed away as they entered. There are many such spots about the mineral "formation," almost two miles in extent, around these boiling springs, where Fort Yellowstone is located. Mrs. Pitcher, wife of the present Park Superintendent, showed me some of these "Stygian" caves, in April, 1902; and, thereafter, I often examined such "bird caves" as I had found, or searched for others. In any hollow capable of holding the heavy gas (supposed to be carbon dioxide) fatal to animal life, dead birds were liable to be found, provided that the usual accompaniment of heat and moisture (from steam), and sulphurous odors (from emanating gases) were found. Most of the dead creatures were birds; but there were, besides, many insects, and a few small mammals. Doubtless larger animals may have been killed in some of these pockets filled with gas, although the flame of a candle was rarely extinguished before it came near the ground. When picking up dead birds I always took the precaution to hold my breath. Moisture and a distinct warmth to the ground were always felt. The effect on bird bodies was to cause rapid decay, the flesh quickly disappearing, then the bones, and lastly, the feathers. Upon the latter a caustic action was observed, the bases of the feathers being eaten away, until, in some instances, only the tips of the feathers remained and retained the form of the bird, at last sinking flat upon the ground and soon leaving no trace. The remains were sometimes so indefinite that it was impossible to identify all of the species, or to make an exact count. In fact, I made no systematic effort to observe and record regularly the effects of these caves on the bird life of the locality, although my note books contain some data.

On first visiting the caves, in April, remains of the magpie, Townsend solitaire, pink-sided junco, pine siskin, and Rocky Mountain nuthatch were found.

May 16, many pink-sided juncos, warbling vireos, and a few Cassin purple finches, and one Macgillivray warbler were among the victims, at the few caves then known to me. At the "Stygian Cave" proper, in dangerous proximity to the deadly gas, a pair of Townsend solitaires were engaged in building a nest in a hollow of the rock. On my next visit the nest had been finished, but both of the little architects were lying dead at the bottom of the cave, pathetically near each other, their outspread wings touching one another. They perhaps descended to gather building materials, or to drink.

During June and July dead birds were seen whenever the caves were visited. Among them were always some Townsend solitaires, Audubon warblers, and Louisiana tanagers. It almost seemed that the Stygian caves possessed some peculiar attraction for the unfortunate birds; but it is probable that a damp and shady nook offered a sufficient allurements, and that curiosity prompted some to follow companions that had preceded them.

August 1, 1902, eleven birds were found dead within the cavern known as the "Stygian Cave," as follows: Two pine siskins, four pink-sided juncos, (all young of the year, with striped underparts), two warbling vireos, two Louisiana tanagers (adult female and young of the season), and one mountain chickadee.

During the September migration an unusually large number of birds perished, but I have kept no record of them. The largest number were pink-sided juncos.

October 15, 1902, dead birds were found in twelve caves. In all fifty-eight birds and a mouse (*Peromyscus texanus subarcticus* J. A. Allen) were counted. These were: one Clarke nutcracker, six pine siskins, thirty-five pink-sided juncos, one green-tailed towhee, one Louisiana tanager, four red-breasted nuthatches, four mountain chickadees, three Townsend solitaires, and three western robins.

Of these, four pink-sided juncos, three red-breasted nuthatches, and two mountain chickadees were fresh enough to be skinned, and were preserved as specimens. Two days later, the only fresh corpses were a mouse, a grasshopper, and a Rocky Mountain creeper, which latter was preserved, having just died. During the ensuing week no additional birds were asphyxiated.

Although unable to estimate the number of birds that perished in the caves adjacent to the Mammoth Hot Springs during the past season, I am of the opinion that the number reached into the hundreds if not thousands. Birds were found dead in about thirty different caves and hollows about the "formation," between Snow Pass and the Mammoth Hot Springs Hotel, near which latter the lowest "bird cave" was discovered. At the suggestion of Mrs. Charles B. Byrne, who visited the Stygian caves in 1902, I requested the Park Superintendent to have the most important caves provided with wire screens for the purpose of keeping birds from entering them, and this will doubtless be done before another season, as the Superintendent and his wife are much interested in the matter.

Following is a list of the species of birds which I found dead in the "Stygian" caves, from April to December, 1902:

1. *Pica pica hudsonica* (Sab.). Black-billed Magpie.
2. *Nucifraga columbiana* (Wils.). Clarke Nutcracker.
3. *Carpodacus cassini* Baird. Cassin Purple Finch.
4. *Spinus pinus* (Wils.). Pine Siskin.
5. *Junco mearnsi* Ridgw. Pink-sided Junco.
6. *Oreospiza chlorura* (Aud.). Green-tailed Towhee.
7. *Piranga ludoviciana* (Wils.). Louisiana Tanager.
8. *Vireo gilvus* (Vieill.). Warbling Vireo.
9. *Dendroica auduboni* (Townsend). Audubon Warbler.
10. *Oporornis tolmiei* (Townsend). Macgillivray Warbler.
11. *Certhia americana montana* (Ridgway). Rocky Mountain Creeper.
12. *Sitta carolinensis nelsoni* Mearns. Rocky Mountain Nuthatch.
13. *Sitta canadensis* Linn. Red-breasted Nuthatch.
14. *Parus gambeli* Ridgway. Mountain Chickadee.
15. *Myadestes townsendii* (Aud.). Townsend Solitaire.
16. *Merula migratoria prepinqua* Ridgway. Western Robin.

Some Unusual Nests of the Bullock Oriole.

BY C. S. SHARP, ESCONDIDO, CAL.

The popular idea of an oriole's nest seems to be that it is always pensile, supported wholly from the top and the lower part, large and purse-shaped, hanging free to sway with every breeze. I have never seen an illustration of one that was not of this description.

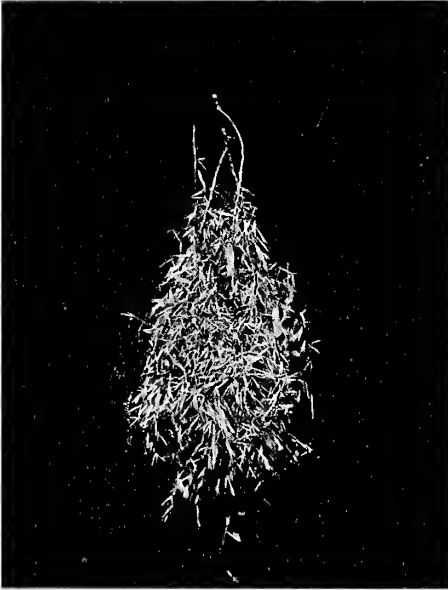
In my observations of nests of the Bullock oriole (*Icterus bullocki*) I have found two distinct types, and presume the same forms are found in the nests of its nearest eastern relative (*galbula*), the nests of others of the genus hardly coming into comparison.

These two types are the truly pensile and what is generally termed the semi-pensile form, although, in reality, it is not pensile at all. With *bullocki* the latter

seems to be the more common form. Nests of this type may be placed in an upright fork, or attached to a branch or twig on one side only, the other side being supported by some nearby leaf, stem or branch, or may be placed between two or more nearly parallel branches or close against one with the small lateral twigs embracing it as with encircling arms.

The truly pensile is the "hangbirds'" nest of the picture books, and has its support wholly at the top, depending from a small fork or from two near branches, with the opening rather small and the nest below expanding into the well-known form. This type is generally the most pleasing in effect and shows more elaborate and painstaking workmanship. It is usually placed near the end of some low-drooping branch well hidden among the leaves, and is so strongly built that it may stand the wind and rains of several seasons before the final dissolution.

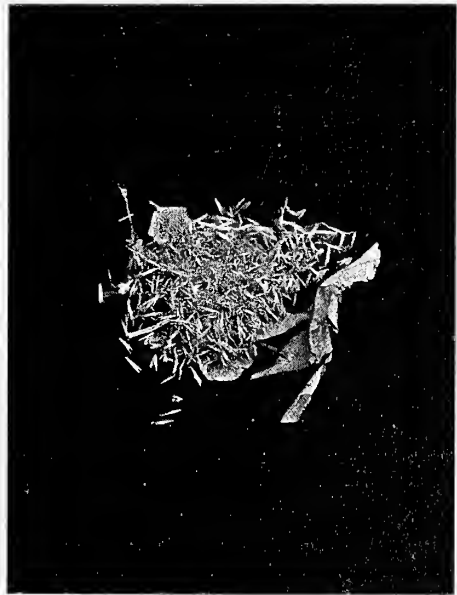
The semi-pensile is a very different type, seldom artistic and generally frail, rarely lasting over one season. It would almost seem as if the main object sought



NEST OF BULLOCK ORIOLE, NO. 1.

for in its construction was the strength of the bottom. This, and perhaps an inch up on the sides is thick and strong, but above the walls are thin and transparent, and scarcely more than a frame work, but strongly woven and securely fastened to the supporting branches. This type is usually placed near the end of an upward inclining branch, which may be attached to it for its whole length; sometimes at the end of a drooping branch, but in any case it derives its support almost wholly from the side. The bottom never extends down to the base of any fork, a space of an inch or more always being left, but the nest is usually built as low down in the fork as its bulk will allow, thus gaining an additional basal support; the top is generally somewhat flaring being built out to convenient twigs.

In the material used in construction the pensile nest shows the greatest variety and the most careful selection. More string and long horse hairs are used, both highly necessary, as the weight is sustained wholly from the top, and these woven through the nest and over the supporting branches give a strength to the whole



NEST OF BULLOCK ORIOLE, NO. 2.

structure that is marvelous. In general the material is the same in all: dry grass, shreds of willow or inner cottonwood bark, fine weed stems, horsehair, string, etc., with a lining of soft grasses, and down from the willow or cottonwood piled in, thick and soft. Sometimes the down will be worked into the outside of the nest as well, with pleasing effect. As a rule there is not much variation between the various nests of the different types, but occasionally some rare genius goes beyond his fellows and evolves a structure beautiful and unique. Three of these extra-ordinary nests are herein described.

When first seen by me the first nest was, without exception, the most beautiful nest of this species I ever saw. It was taken from a white oak tree, quite an unusual location in this section, and was near the end of a small drooping branch about fifteen feet from the ground. The twigs to which it was attached formed a fork, and a few inches above, another small twig extended downward in the same direction. The nest was wholly suspended from these, the twigs, with some of the leaves attached

for a little distance back. With these ex- three long horse hairs ly of wild oats and A few of the oat inside where they nest itself, but almost the long stems being heads which stood graceful fringe all from one to three effect was striking unfortunately much stroyed a large part tograph could be ses- ions in inches are as side (extreme) 14; to opening, 8; depth diameter outside, 7; circumference 21.

ments are of the nest clude the fringe of ing is rather triangular in shape from the position and angles of the supporting twigs and is rather more than an inch greater from front to rear than from side to side. The back is built up into the fork and nearly to the branch itself and is six inches higher than in front.

If birds have an eye for the beautiful in their homes, as well as for utility, (and who can say that they do not?) then surely the architects of this structure were thorough artists. It would be hard to conceive of an oriole's nest more artistic or generally pleasing in effect.

The second nest stands rather in a class by itself, being neither pensile nor semipensile in form, and is the only nest of the species I ever saw that was built in that way. It is more like the nests of the other branches of the Icteridæ, and it is hard to believe it is an oriole's nest at all. It is supported almost wholly from the base, one side being built squarely over a small branch which crosses a little to one side of the middle. The other side is supported at the very top by a



AVERAGE NEST OF BULLOCK ORIOLE,
AND NEST NO 3 (RIGHT).

being worked into it down the sides and ceptions and two or it was composed whol- rather loosely woven. heads show on the all are on the outside, worked into their out in a beautiful and around and below for inches or more. The and unusual. Very handling had de- of these before a pho- curred. The dimen- follows: Depth out- depth outside (front) inside to opening $5\frac{1}{2}$; diameter inside, 4;

These measure- proper and do not in- oat heads. The open-

small leaf-twig. There are no other supports whatever. This was taken from a sycamore at an elevation of almost twenty feet and was near the end of a somewhat drooping branch where it was well hidden by the large leaves. This also has wild oats for its chief material, the stems being woven closely into the nest itself leaving the heads to stand out for a couple of inches all around. Inside them is grass and quite a little willow cotton at the bottom and a few horse hairs woven in. In its dimensions it is also unusual: depth, outside, 4 inches, inside 3; diameter outside, 5, inside, 3; circumference, 13. This nest is so radically different from the ordinary nest of the species that one cannot help wondering what spirit of retrogression (one might say) possessed its little builders.

The third nest is of the semi-pensile type, but shows a skill in its manufacture that places its builders as far ahead of the ordinary semi-pensile architects as are the weavers of the truly pensile type. When first seen by me at the top of a small willow sapling I took it to be a swarm of bees and regretted that my collecting outfit did not contain suitable apparatus for gathering them in, for I do not like to have the little busy bee waste its sweetness on the desert air and in hollow trees if I can very well prevent it and besides hollow trees are much better adapted to screech owls. The resemblance to a swarm was very great and I was within thirty feet of it before a female oriole flying from the nest showed me my error. It was placed between the two branches of a nearly upright fork in the very top of a small clump of willows, about twelve feet from the ground. One small branch was completely buried in the nest for nearly its whole length, the other secured to it at the top, a little above and a little below the middle and lying close against the nest all the way. The top is rather flaring, being built out to the numerous leaf-twigs, many of which with their leaves are worked in on the top and back. The material used in its construction is wholly shreds of dry grass and of the bark of weed stems, the general color effect being very dark throughout. There are a few pieces of the stems on the outside with the bark partially detached and woven in, the stems hanging loose. For scientific weaving this nest is a marvel and resembles fine crochet work more than anything. The average nest of the Bullock oriole will have bits of string and plenty of horse hair woven in to bind and strengthen it, but this has nothing of the sort. I can not find even one piece of horse hair in the whole nest, nothing but fine and apparently short shreds of grasses and weeds. Holding it before a light one can plainly see the longer foundation lines running through and the marvelous way in which it is all worked together. All the length of the nest the sides are thin and of the same delicate workmanship, the bottom is harder and thicker, but the same material is used throughout. The builders of this nest were the most wonderfully skilled workers of their species that I ever saw and were doubtless old and experienced; no novices could ever have constructed such a nest. The photograph, while showing well the remarkable shape and size fails to give a perfect idea of the fine weaving and material, that only an examination of the nest itself can do.

For comparison I have included in a photograph the nest of another pair of orioles that can fairly be called an average nest, both for size, manner of construction and materials and also attachment to the branch. The measurements of both nests are here given: depth inside, nest 3, 9 inches; average nest $4\frac{1}{2}$ inches; depth outside, nest 3, $9\frac{1}{2}$ inches; average nest 6 inches; diameter inside nest 3, $3\frac{1}{2}$ inches; average nest 3 inches; diameter outside, nest 3, 4 inches; average nest, $3\frac{1}{2}$ inches; greatest circumference, nest 3, 12 inches; average nest, 12 inches. In

both nests the top is flaring and extends out to supporting twigs for an inch or more, the measurements do not include these extensions.

These three nests show peculiarities in shape and in the materials used that would seem to indicate a fixed purpose and design on the part of their builders rather than the result of chance. The wild oats used in the first two is unusual, even in small quantities, yet these birds chose it in preference to everything else, although other materials that satisfied other orioles were in abundance. Concealment seems to have been disregarded, in the first nest especially, for the large bulky structure of wild oats would be a rather difficult thing to hide in the foliage of a white oak and there seemed to be very little if any attempt at it. In the second nest the white bark of the sycamore and large lighter colored leaves made it more easy. In the third nest the fact that what were undoubtedly the same birds built a new nest a few rods away when this was taken, using the same sort of material and building a nest of the same shape and nearly the same size, and of the same fine weaving would show an individual preference that was as decided as it was remarkable. This second nest was not disturbed and the birds raised their brood in peace. I shall watch the locality with interest this season and if the same birds return I am sure I shall know them by their handiwork.

The Phainopepla.

BY M. FRENCH GILMAN.

THIS bird always possessed a fascination for me, though as a small boy, my interest and admiration were mixed with some awe and respect. His easy graceful flight, dignified bearing and hearse-like plumage and colors placed him above the common herd and it were nearly sacrilege to throw rocks at him. This immunity did not extend to the nest and eggs could I but find them. For a long time I sought in vain and began to think they were like the fabled birds of paradise, or like "Topsy." But finally a nest of young birds was found in July and the ice was broken.

There is a dignity and an air of mystery about the bird that appeals to one. His silky, jet plumage, graceful crest and flaming red eyes form a striking combination, and the revelation, as he flies, of the snow patches on his wings is rather startling. As a musician he does not excel, merely repeating at intervals a flute-like note, or when another bird interferes with him, uttering a rasping reproach.

The phainopepla makes his appearance in this vicinity about the 15th of May and remains until about October though stragglers may be seen along in November. I once saw one during a snow storm the middle of January, and he was still dignified though bedraggled. Many of them spend the winter in the mesquite thickets of the Salton sink and Conchilla valley—in and around Indio, Walters, Martinez and Toros. Here they feed on the pinkish berries of the desert mistletoe which infests so many of the mesquite trees. A few of the birds remain all winter at Palm Springs also, feeding on mistletoe berries and the pepper berries of which they seem very fond. A pepper tree with several of the phainopeplas clinging to

its long graceful branches, eating the pink berries, forms a perfect picture, the remembrance of which lingers.

In watching the birds during the breeding season I observed that many of them took no interest in domestic affairs, but put in much of their time consorting with such mixed company as house finches, western tanager, and grosbeaks, in fig and cherry orchards where some of them met violent deaths. These loafers nearly all looked like immature birds, being less glossy and dignified, and I have since discovered they were nestlings of the season hatched in early spring in the Conchilla valley and at Palm Springs, and perhaps as far as the lower Colorado river country. This was surprising to me as the birds nest so late in the San Gorgonio pass, Warner's ranch and other similar points. In my notes I find the earliest date for a nest to be Banning, June 11, 1893. Fresh eggs at other dates noted were: Warner's ranch, June 12, 1901, Banning, June 23, 25, 27, 28, and July 4, 1893. Young birds can be found all through July, and in only two instances were eggs found prior to June 23. For a month after they arrive or until about June 15, they seem to have nothing to do but amuse themselves and look pretty.

From my desert notes I take the following data: Palm Springs, March 24, 1897, three new nests and a nest of young just ready to "fly the coop;" March 20, 1899, three new nests and a nest of young a few days from the egg; March 6, 1900, nest with two fresh eggs. At Toros I made notes as follows: March 19, 1901, a set of two eggs partly incubated and a nest of half grown young. From this data it would seem that most of the young are hatched in March and April and that in some instances nest building must begin in the latter part of February. Possibly some of the birds rear two broods a year, but from the fact that some adult birds fail to pair and nest in this vicinity, I am inclined to think but one brood is raised. Probably those hatched in March on the desert return there to nest the following March; while those hatched in the San Gorgonio pass, in June and July, nest there the following summer.

The nest is placed in a sycamore tree if one is available, but nests may be found in oak, cottonwood, willow, or mesquite trees. Two eggs is the usual set, though three are sometimes found. I have a set of three found at Warner's ranch and have record of three in set twice at Banning, one found by Nathan Hargrave and one by myself. The nest is saddled on a branch, and in shape and composition very much resembles that of the wood pewee, though larger in size. The male bird does much of the incubating, being seen on the nest more than half the time and exhibiting more solicitude for the home than does his mate.

The Significance of Trinomials.

BY WITMER STONE.

THE following comments were originally prepared as a communication at the Twentieth Congress of the A. O. U. They are presented here at the request of the editor of THE CONDOR, but have been somewhat modified in the interests of brevity and clearness.

Nomenclature is not a subject of much popular interest, but since the varied faunal conditions of California bring it constantly to the attention of the systematic zoologists of the State, the present publication may be warranted.

The writer is speaking solely for himself, and no matter whether his views be ultimately endorsed or condemned by the A. O. U. Committee, he wishes to be understood as always advocating adherence to the Code and Check-list of the A. O. U. as the only way to secure uniformity—the main object for which we strive. He is also well aware much the same problems as here presented have already been discussed by Dr. Merriam, Dr. Allen and others, so that no originality is claimed, but merely an expression of opinion.

The use of trinomials, as established by the A. O. U. Code and adopted by most writers on vertebrates, is generally understood to be the designation of the geographic variants of a wide ranging form, which merge into one another where their ranges join—i. e., incipient species, produced by peculiar environments, but which are not yet entirely isolated from one another. The forms so designated are called subspecies.

As a convenient method of deciding whether a certain race or form should be regarded as a species or subspecies, actual intergradation between contiguous forms was adopted by the A. O. U. Code as the criterion.

When we come to name resident birds of coastwise islands which are but slightly differentiated from the mainland stock we at once confront a problem. Intergradation in the sense of interbreeding is impossible, consequently some writers maintain that all island forms must be regarded as *species* (binomial). But intergradation in the sense of overlapping of characters exists in many cases, and on this ground others term them *subspecies* (trinomial) and in practice a form is judged to be a species or subspecies by the *degree of difference* exhibited between it and its nearest geographic relative. This latter would seem to be the more logical course, since by the former plan we might just as well separate the song sparrows for instance of San Clemente and San Miguel Islands since they are geographically separated into two races, though as yet we cannot detect any tangible difference between them!

Extending the practice of recognizing overlapping of characters as intergradation, we find the geographically isolated though closely allied Florida burrowing owl listed as a subspecies of the bird of the plains, and other similar cases culminating with Mr. Nelson's recently described "subspecies" of the Cuban cliff swallow from western Mexico! This practice is severely criticised by some, but if we regard these forms as species solely on account of geographic isolation, what are we going to do with the martin of Southern Mexico which Mr. Nelson states is indistinguishable from the Cuban martin. Surely we cannot separate it purely on geographic grounds and if we do not separate it we are calling by the same name two forms which have probably developed independently, and thus losing sight *in our nomenclature* of a fact of evolution, the indication of which facts is, according to the strict adherents of the actual intergradation principle, the main object of trinomial nomenclature. The question naturally occurs can we indicate in our nomenclature all these facts of evolution without seriously impairing the utility of our names as *names*?

The foregoing cases are those in which *actual* intergradation is either impossible or doubtful. Let us now consider some where it is admittedly a fact.

Mr. Ridgway has shown that all of our continental song sparrows pass imperceptibly one into the other where their ranges touch, and as a result we have the little speckled-breasted bird of the California salt-marshes listed as a subspecies of the big gray bird of Alaska, more than twice its size, and which any novice would regard as a perfectly distinct kind of bird.

In the quail also Mr. Nelson has shown intergradation between a whole chain of contiguous races reaching from the eastern United States to southern Mexico and therefore we must link together in a trinomial name our white-throated, bar-breasted, bobwhite (*Colinus virginianus*) with a chestnut-bellied, black-throated, bird bearing no resemblance to it except in generic characters. And yet a race separated by some miles of country and not showing any actual intergradation with its nearest geographic ally, will be designated as a species with a binomial name, even though it be much more closely related to either of the above extremes than they are to each other! This practice to my mind loses sight of the primary object of nomenclature which I take to be the designation of a distinguishable form in nature by a name which, when we see or hear it, will recall that form to mind. Anyone seeing a trinomial name today has no idea whether the form denoted is a slight variation of the stock indicated by the specific name or something totally different perhaps occupying a region hundreds of miles distant, the intervening country being occupied by other forms between which by mere chance the thread of evolutionary development is not yet quite severed.

The result of this use of trinomials will tend to the complete abandonment of this useful form of name. In fact some writers on mammals have already practically lapsed into a pure binomial nomenclature. It seems to me that this tendency is very much to be regretted. A trinomial properly used means just twice as much as a binomial, and with the present practice of naming every slightly differentiated form, a purely binomial system will soon mean nothing except to the specialist on each group—the mind cannot place such a host of names. The trinomial on the other hand properly used gives at once, in the specific names, a clue to the general character of the form referred to.

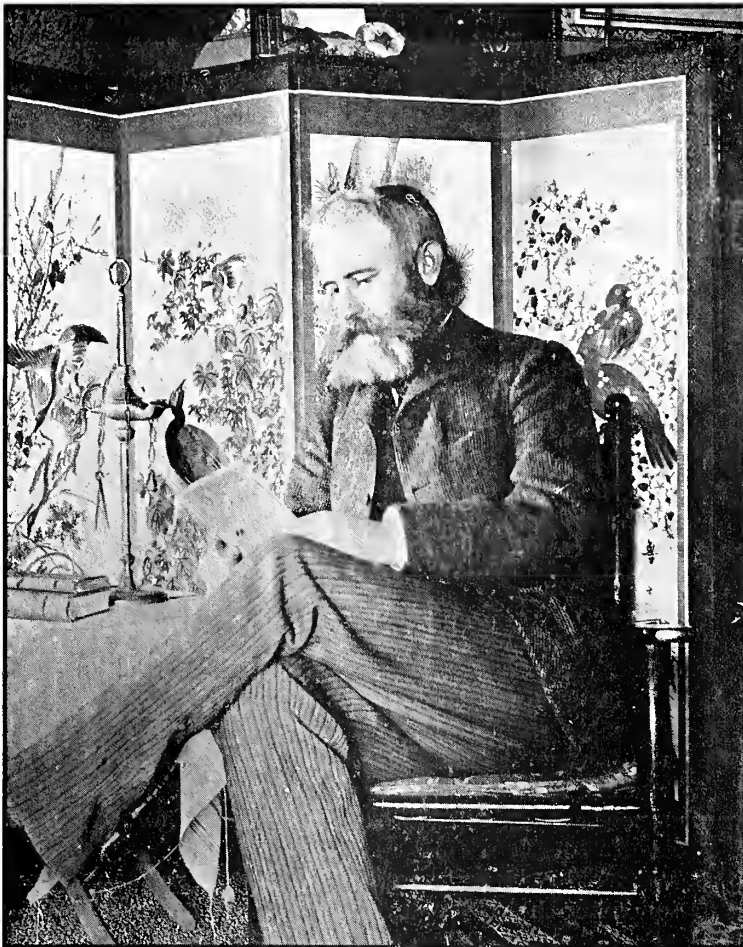
By continuing the practice of naming island and isolated forms by the *degree of difference* principle as is now done in the A. O. U. Checklist, and by extending this practice to the breaking up of such widely divergent series as the song sparrows and quail (which are comparatively few), I think that the valuable system of trinomials can be preserved. That the series just referred to must be broken *arbitrarily*, I admit, and that they *can* be broken arbitrarily by such a body as the A. O. U. Committee and still meet with general satisfaction there is, I think, no doubt. Genera have been so divided in numerous instances and the conditions prevailing in both cases are the same, i. e., current personal opinion.

The segregation of geographic races and the tracing of evolutionary development constitute one of the most valuable and instructive phases of modern systematic work, but we should realize that all the facts so discovered cannot be embodied in our nomenclature and that if we give up the effort to so embody them, we in no sense mean to belittle them.

To my mind we should aim to keep a name as nearly as possible to its original province and to remember that "nomenclature is a means not an end of zoological science."

The Author of "Birds of the Cape Region of Lower California."

MR. Brewster's recent noteworthy work on the "Birds of the Cape Region of Lower California" appeared just thirty years after his first paper, "Birds New to Massachusetts," in the *American Naturalist* for 1872. Since then a long and enviable list of papers has marked his active ornithological career—a list far too extensive to enumerate in this connection. Tho his systematic articles are many, it is safe to say that Mr. Brewster is best known by his



MR. WILLIAM BREWSTER.
(Taken February 5, 1895.)

faunal and life-history work. As a portrayer of bird life and bird ways he is without a peer.

Altho it is in New England that he now loves to 'ornithologize,' yet thru numerous field collectors his interests have reached to the farthest shores of the continent, and his many articles on western birds entitle him to a place among *our* most active workers.

A List of Water Birds of Lake Valley, Central Sierra Nevada Mountains, California.

BY MILTON S. RAY.

WHILE the land birds of this region have been fully treated by Chester Barlow in THE CONDOR (Vol. III, No 6) and by Wilfred Osgood and other writers in various magazines, little or nothing has been written regarding the water birds. I have spent two seasons in the valley, from June 4 to June 20, 1901, and from June 16 to July 3, 1902. My brother, William R. Ray, has accompanied me and in 1902 Olof Heinemann joined us.

The principal resort of the water birds is the marsh extending along the shore of Lake Tahoe between Rowlands and Tallac for about three miles and from one to three miles inland. They are also found sparingly, however, on Lake Tahoe and other adjacent lakes, and in the various meadows and along the numerous streams of Lake Valley. Most collectors have been prevented from working the marsh at Rowlands thoroughly owing to deep water, impenetrable tule-thickets and impassable patches of pond lilies. While inaccessible to a row-boat, we overcame these difficulties with a light portable canvas canoe which we used both years. This enabled us to go over the shallowest water or lily-beds with ease and thru the thick tules with some little difficulty.

Thanks are due Mr. Leverett M. Loomis for identifying a number of skins taken. Starred (*) species were collected.

Colymbus californicus. American Eared Grebe.* The grebe is a very rare bird about Lake Tahoe. None were observed in 1901, although many days were spent in the marsh at Rowlands. On June 29, 1902, a nest was found in the above marsh in about six feet of water among a sparse patch of tules. It was a floating mass of decayed vegetation and fastened to the reeds, and contained four well stained and almost fresh eggs.

Larus californicus. California Gull. This gull in all states of plumage is abundant on the lake about Rowlands but does not breed. On every visit immense flocks would lazily raise from the sand bar at the mouth of the river as we entered.

Sterna forsteri. Forster Tern.* Very common about Rowlands marsh where it nests in colonies of a dozen pairs or more. When the nesting grounds were approached the terns would fly up and hover about us, uttering their discordant cries, and some would dart uncomfortably close to our heads. The nests were built in various situations. The majority were built up of dry tules where the water is about five feet deep. When freshly built of green tules the nest formed a pretty picture. They were placed among tall thick tules or marsh grass and pond-lilies at their edge. Great difference existed in the nests, some being elaborate structures, while others were scantily made and placed on soggy masses of dead tules or floating logs. Numerous eggs were observed floating in the water about the nesting grounds and in a large number of sets taken the eggs were added. A little before the first of June these terns start nest building, and fresh and partly incubated eggs were found all through the month. Even on my latest trip to the marsh, June 29, 1902, I did not observe any young of *forsteri*. The nests contained either one, two or three eggs and in about one hundred nests examined in 1901 and 1902, only one contained more, namely, five eggs. While the style of marking varies greatly, the ground color of brownish-drab and the blotches of brown, umber and lilac remain about the same. A single exception was a set

of three eggs, in which the ground color is pale green. An abundant fish in the marsh called "chubs" is the principal food of these birds, and they may be seen all over the marsh restlessly flying back and forth or hovering and dropping with a sudden splash after their prey.

Hydrochelidon surinamensis. Black Tern. This tern is even commoner than the preceding species. Occasionally substantial nests of tules in deep water like those of *forsteri* were found, but nearly all were scantily or carelessly made of fine tules and marsh grass and placed on floating driftwood in a foot or so of water. Like *forsteri* this bird usually lays one, two, or three eggs, but a single set of four were found. It nests a little earlier than Foster tern, small young being rather common at the end of June. The birds breed in colonies, from ten to twenty nests



PHOTO BY O. HEINEMANN.

NEST OF THE MALLARD.

being found together. A single specimen of a tern with a white breast not larger than *surinamensis* was seen, but we were unsuccessful in our attempts to secure it.

Pelecanus erythrorhynchos. American White Pelican.* Abundant about Rowlands marsh but does not breed. I also noticed large flocks about the numerous mountain lakes in Desolation Valley (altitude about 8000 feet). By the protuberance on the bill the males can be distinguished for quite a distance.

Merganser serrator. Red-breasted Merganser. Recorded as a winter visitant at Lake Tahoe in Grinnell's "Check-list of California Birds."

Anas boschas. Mallard. By far the commonest duck about the marsh. Also numerous along the various streams and marshy meadows. The majority breed in May as several dead ducklings were seen and numerous nests were found, in

clumps of willows or among the wiry grass on sand-spits, profusely lined with down, containing egg shells.

Querquedula cyanoptera. Cinnamon Teal.* The teal is scarce. I found a single nest on June 19, 1902, containing four nearly fresh eggs. It was simply a hollow without any lining, on high ground in the marsh among tall grass.

Aix sponsa. Wood Duck. On nearly every visit to Rowlands I have noticed a single individual and young of this beautiful duck off the mouth of the river.

Aythya collaris. Ring-neck Duck. Recorded from Lake Tahoe in mid-winter in Check-list of California Birds. The above list of ducks could probably be trebled by observations in fall, winter, and spring.

Botaurus lentiginosus. American Bittern. A single specimen of this bird was seen on June 29, 1902, when it flew up a few feet from the canoe, in the tall grass where it had been feeding, but on every trip to the marsh or the vicinity the peculiar booming noise was heard.

Ardea herodias. Great Blue Heron. Noticed occasionally about Rowlands in June 1901 and 1902.

Fulica americana. American Coot. During June, 1901, this bird was common all over the reedy parts of the marsh nesting both in tall thick tules and among sparse reeds in almost open water where the nest could be seen for quite a distance. Some nesting records in 1901 are as follows: June 8, 9 eggs, incubation advanced; 7 eggs, incubation, one half; June 12, 8 eggs incubation begun, 7 eggs incubation advanced; one nest with young just emerging from the shell. Strange to say I did not see one of the birds in 1902.

Steganopus tricolor. Wilson Phalarope.* Rather common both about Rowlands and the marshy meadows near Bijou where two pairs had nests about the middle of June, 1902. They could not be located however, even with the aid of a field glass owing to the character of the country and the marvelous hearing and sight these birds possess. On June 14, 1901, I shot a female of this species for identification, and it was pitiful to see how her mate would not forsake the spot but continued circling around uttering its mournful and almost human cry. These birds were seen in flocks of half a dozen or more and also single pairs during June, and I am almost positive I observed a pair with young early in June, 1901, thus showing that the breeding season extends from May to July.

Actitis macularia. Spotted Sandpiper. Common about Rowlands as well as along the lake shore, various streams in the valley and numerous meadows. A nest, June 9, 1901, at Rowlands, among wiry marsh grass contained four fresh eggs, and one June 17, 1901, in the same location contained a like complement, also fresh, and curiously enough but half a foot away was a nest of the Killdeer with three eggs. One nest June 26, 1902, was found near Bijou by watching the birds from a distance with a field glass. It contained four eggs too far advanced in incubation to be of value.

Ægialitis vocifera. Killdeer. The killdeer frequents the same localities as *Actitis macularia* and is very abundant. Owing to the perception of these birds, however, the nests are not easily found unless considerable time is spent. A nest, a hollow scooped in the bare shingle on the lake shore at Rowlands on June 11, 1901, contained three fresh eggs, and one in a similar situation on June 22, 1902, contained the same number in the same condition.

The Summer Birds of Washoe Lake, Nevada.

BY FORREST S. HANFORD.

WASHOE Lake, Washoe Co., Nevada, is a typical Nevadan lake, with an area of eighteen square miles and an altitude of 5,045 feet above sea level. Its shores are barren of anything approaching trees, except for a few clumps of willows here and there. Extending along the eastern shore lie a chain of sand dunes rising to a height of thirty feet, and cut through in many places by numerous 'wash-outs.'

Here in the cliffs the bank swallows make their homes, and I have found many relics and arrowheads of the Washoe tribe of Indians who once made these small, wind-sheltered gullies their home. About half a mile back of these sand hills is the Washoe range of mountains, covered only with sage brush, the first of the desert ranges.

Passing around to the west side of the lake we find a country entirely different; here lies the fertile Washoe valley and two miles distant rise the Sierra Nevada, its pine forests and snow-capped peaks making a strong contrast to the desert country to the east. The tule fields are at the north and extend four miles, ending in Little Washoe Lake. The following short notes were taken during the months of May and June of the last two years.

Æchmophorus occidentalis. Western Grebe. About ten noted in May, 1900. I have tried shooting at them with a rifle but always with the result of seeing them disappear under the water at the flash of the gun.

Colymbus nigricollis californicus. American Eared Grebe. A set of nine eggs collected in June constitutes the first record of this grebe breeding at the lake.

Larus californicus. California Gull. One seen on shore with white pelicans.

Hydrochelidon nigra surinamensis. Black Tern. Not uncommon. Several pairs noted flying over tules where they probably breed.

Pelecanus erythrorhynchos. American White Pelican. About 50 pelicans were observed at the lake last year and the number had increased to 100 this year. Three eggs were found a foot under water in June, but no nests have been found for a number of years.

Anas boschas. Mallard. Breeds abundantly at the lake in May.

Chaulelasmus strepera. Galwall. Not common. Only a few pairs noted this year.

Nettion carolinensis. Green-winged Teal.

Querquedula discors. Blue-winged Teal.

Querquedula cyanoptera. Cinnamon Teal. All three of the above ducks were common breeders at the lake.

Dafila acuta. Pintail. Mr. J. Steinmetz tells me that the pintail has been observed at the lake several times.

Histrionicus histrionicus. Harlequin Duck. A male was taken at Frankstown near the lake and identified by Mr. Steinmetz.

Erismatura jamaicensis. Ruddy Duck. Noted quite a number of times in open lanes of water in tule fields, but appeared quite shy.

Branta canadensis. Canada Goose. A number of nests of this goose have been found at the lake in past years. In May 1900 a nest was discovered near the shore, containing the shells of eggs and was supposed to belong to this species.

Branta nigricans. Black Brant. Accidental. Early in May a pair was observed near shore of lake.

Botaurus lentiginosis. American Bittern. A single bittern was seen at the lake this year.

Nycticorax nycticorax nævius. Black-crowned Night Heron. A colony of these herons was discovered breeding in the middle of the tule field in May 1900. About 200 nests were counted and by the first of June they all contained young or incubated eggs. Only twenty herons were seen at the lake this year.

Rallus virginianus. Virginia Rail. Noted in marshy meadows on west side of lake.

Fulica americana. American Coot. Very common in tule fields.

Steganopus tricolor. Wilson Phalarope. Not uncommon on west side of lake. Found breeding close to shore.

Recurvirostra americana. American Avocet. A few pairs seen on west side of lake; probably breeding.

Himantopus mexicanus. Black-necked Stilt. Noted along west shore of lake in May and June.

Gallinago delicata. Wilson Snipe. Not uncommon in marshy fields on west side of lake.

Actitis macularia. Spotted Sandpiper. Common breeder along shores of lake.

Ægialitis vocifera. Killdeer. Abundant at lake.

Circus hudsonius. Marsh Hawk. A pair of these hawks observed at the lake in May 1900.

Archibuteo lagopus santi-johannis. American Roughleg.

Falco sparverius deserticolus. Desert Sparrow Hawk. These two hawks have been noted hunting through tule fields in June. The latter nests high up in the Sierras.

Bubo virginianus pallescens. Western Horned Owl. Noted in tule fields in June.

Speotyto cunicularia hypogæa. Burrowing Owl. One seen on fence post near lake in May.

Chordeiles virginianus henryi. Western Nighthawk. Noted flying over tule fields.

Xanthocephalus xanthocephalus. Yellow-headed Blackbird.

Agelaius phœniceus. Red-winged Blackbird. These two blackbirds are common through the tules.

Sturnella magna neglecta. Western Meadowlark. Abundant in grassy meadows near lake.

Scolecophagus cyanocephalus. Brewer Blackbird. Very common around lake.

Ammodramus sandwichensis alaudinus. Western Savana Sparrow. Quite common on west side of lake, breeding close to shore.

Chondestes grammacus strigatus. Western Lark Sparrow. Not uncommon on west side of lake.

Spizella breweri. Brewer Sparrow. Very common in sage brush on east side of lake.

Amphispiza belli nevadensis. Sage Sparrow. A characteristic bird of the sage brush on east side.

Melospiza melodia montana. Mountain Song Sparrow. Noted with young in tules near the last of June.

Pipilo maculatus megalonyx. Spurred Towhee. Abundant in sage brush on east side of lake.

Oreospiza cholura. Green-tailed Towhee. Several noted in a patch of sage brush on south shore.

Petrochelidon lunifrons. Cliff Swallow.

Hirundo erythrogaster. Barn Swallow.

Clivicola riparia. Bank Swallow. All three of the above swallows found breeding near lake.

Geothlypis trichas occidentalis. Western Yellowthroat. They are quite common in the tules.

Oroscoptes montanus. Sage Thrasher. Found quite commonly in sage brush on east side.

Cistothorus palustris plesius. Western Marsh Wren. A very busy little wren in the tules.

Status of the Bicolored Blackbird in Southern California.

BY FRANK S. DAGGETT.

IT is safe to say that during the past ten years hundreds of eggs of the bi-colored blackbird (*Agelaius gubernator*) have been sent from Southern California, and all our collections contained skins of what was supposed to represent that bird.

When the interest in ornithology was first started in California and which culminated in the formation of the Cooper Ornithological Club in 1893, the principal authorities warranted the assumption that *gubernator* occurred in Southern California. Coues' Key gave the distribution as "Pacific Coast U. S. and British Columbia" while the A. O. U. Check-List states, "Pacific Coast district from Western Washington, south to Lower California," etc. With this for a basis we all looked for *gubernator*, and it was found, as we supposed, associated with *Agelaius phoeniceus* of those days. The bird so selected was an immature-looking male, with buff lesser wing coverts, and black middle coverts, answering to the written descriptions of *gubernator*. There is more or less uncertainty as to the status of all our blackbirds, and in 1896 Mr. Grinnell made up a lot of adults and immatures, for transmission to Washington for identification, among them some belonging to the writer. Upon their return we found, among the immatures, several marked *gubernator*. This was long before Mr. Ridgway's revision of the blackbirds, but it confirmed our earlier decision and *gubernator* received a place in the List of Birds of the Pacific Slope of Los Angeles County with the following observation by Mr. Grinnell: "Several specimens of this form have been taken at Bixby and El Monte, and it may breed in this County, as it does commonly to the northward; but I have no reliable data, altho many eggs purporting to be of this bird have been sent from the County."

About a year ago Mr. Grinnell, in order to settle the question, sent me a pair of *gubernator*, in breeding plumage, collected by him in a locality of well known occurrence. The comparison at once threw out the birds which we had known as *gubernator*, and further investigation convinces me that they are what is now known as *A. p. neutralis* Ridgway.

I have examined all the available collections in Southern California, with the same results, and I can find no one here who can produce actual specimens of *gubernator* taken in the southern counties of California.

Unless some one produces specimens, it is safe to say that the bird does not occur here. Certainly the eggs sent out so freely from this part of the state, in years gone by, as *gubernator*, can safely be put down as of Mr. Ridgway's recently described *A. p. neutralis*, for most of them were taken in well known colonies, where none but *neutralis* are found today.

CORRESPONDENCE

On Certain 'Modern' Tendencies

EDITOR OF THE CONDOR:

In examining some zoological works published in the early part of the 19th century I have recently noticed several discourses which may be of interest to the readers of THE CONDOR. The numerous protests against the fine discrimination of species and subspecies which have been recently made in various zoological and particularly in ornithological journals are chiefly addressed to those who indulge in what are termed 'modern' tendencies. It seems, however, that neither the protests nor the supposed tendencies are quite sufficiently modern to share the title with storage electricity and wireless telegraphy. As early as 1820, Dewitt Clinton (Letters on the Natural History and internal Resources of the State of New York, pp. 156-157) published a long dissertation upon this subject. The following short extract indicates the 'deplorable' state of affairs then existing.

"This system [the Linnæan], when it came out of the hands of its great architect was recommended by its simplicity, and by its tendency to facilitate the acquisition of knowledge. In the progress of time it has become corrupted by the interpolations and sophistications of inferior workmen who have destroyed its beauty, deranged its symmetry, and undermined its strength. The multiplication of terms, the augmentation of synonymes, the creation of new genera, and the fabrication of new species, have overloaded the science with an Egyptian burden of terminology. Philosophy has been transferred from things to words, and the inventor of a new term, of specific or generic difference where none exists, has been absurdly considered as entitled to the honors of an important discovery. A new race of naturalists have started up, who confine their attention solely to verbal description, and who entirely overlook the habitudes and manners of animals, and the uses and characters of other organic beings, and of inorganic matter."

A few years later James E. DeKay, author of the well-known zoology of New York wrote as follows: ^a "New nominal species perplex the student, increase the labours of the critical naturalist, and render the study of natural history tedious and difficult. If it was generally understood that it is more meritorious to extinguish a single nominal species than to establish a dozen new ones, it would effectually check the *present mania* for making new species often on slight foundations. This also leads to an overweening anxiety to secure priority; and hence descriptions are liable to be drawn up in a crude and hasty manner, without reference to the co-ordinate characters."

In 1831, John Godman (Am. Nat. Hist. vol. I, pp. XV-XVI) presented the same ideas as follows: "Beginners of the study of natural history are generally liable to form erroneous conclusions, among which none is more common and prejudicial than that of mistaking the system of classification for the subjects classed, or in other words, the arrangement of the names for the things themselves, nomenclature for natural history. * * * * The mistake above pointed out is continually urging many who would be esteemed naturalists to the formation of new genera and species, founded on trivial, accidental, or imperfectly noted differences between creatures which, to all rational observers, appear the same. This retards science, and misleads individuals as to the character and objects of natural history, which, judged by the conduct of some who are regarded as authorities, would appear to be the science of magnifying trifles and bewildering the understanding. In natural history, as in other departments of human knowledge, none but sciolists are pedants; such persons struggle to impart to their implements the dignity and importance that should belong to the work alone, and, 'in self adoring pride securely mailed,' seek but to glorify themselves, considering the interests of science as nothing when weighed against the gratification of their own vanity."

The application of the foregoing is not far to seek and it would be superfluous to state it at length. Surely the systematists of today prefer the heritage they possess rather than that which would have been theirs if these ultra-conservative counsels had been followed to the letter.

WILFRED H. OSGOOD.

Washington, D. C.

A Protest

EDITOR OF THE CONDOR:

Kindly allow me to make a most emphatic protest against the useless and wasteful record of egg collecting in your journal, vol. IV, pp. 128-131, in a paper entitled "The Holbcell Grebe

^a Address to The New York Lyceum, p. 76.

in Montana." The writer of the paper in question is an ornithologist of recognized ability who should stand for the conservation of bird life, but by his own story he worked for two weeks systematically and energetically, and the result was a small amount of the life history of a species that is rarely found breeding within the limits of the United States, and the collecting of probably every egg that was laid by the small colony of five pairs of grebes that had selected Swan Lake for a home. Twenty-eight eggs taken, some of them almost on the point of hatching, and for what,—that they might be measured to see if there was a fraction of an inch difference in the length or breadth of the empty shell, or to note if there was a slight variation in the shade of ground color. Could this not have been done without the sacrifice of twenty-eight young birds, and the consequent distress of the parents?

In my efforts for better bird protection I am often confronted with the statement that much useless and unnecessary collecting is done in the name of science. No one can have a higher appreciation of real scientific work than I accord to it, but the taking of every egg, of a rare breeder, in a small colony, is in no sense scientific, but on the other hand, it is wasteful and reprehensible. One typical set taken in 1902 would have been ample to establish the fact that the Holboell grebe breeds in Montana. It would have been much more scientific to have spent the two weeks in obtaining some insight into the life history of this species; i. e., method of nest building, care of young, food habits, etc. These would have been valuable facts that would interest every other bird student in the country. The twenty-eight empty shells now represent only a devastated bird colony and a story of cruel wrong.

Very truly yours,

WM. DUTCHER.

New York, Jan. 5, 1903.

An Answer

EDITOR OF THE CONDOR:

The limit of temperate collecting has ever been a mooted question, and like many other phases of ornithology, it is likely that the subject will always be open for discussion. As my position on this question has been criticized, I shall try to define my ideas on the ethics of collecting, and to explain the circumstances regarding the particular instance in which I am brought to task.

In a collection of natural history specimens, open to examination and usable by competent persons, the material will conserve to the pleasure and gratification of more people than it will in its native condition of life and surroundings. To support this statement, I bring forward the note in the issue of *Science* for Jan. 23, 1903, page 159, saying that seven hundred thousand people had visited the New York Zoological Park last year, and that the aquarium is visited daily by fully five thousand persons. True, the Park contains living animals, but the principle holds true in collections of whatever nature. For one person who can get out into contact with nature, there are hundreds who must be content with seeing things in cabinets and collections. In the ordinary conditions of life, the number of people who come into actual touch with nature is few indeed; a short walk on Sunday afternoon, a glimpse of some bird by the roadside, or a peep into a nest in some dooryard, is all that such people get out of the vast wealth of environment. The majority of people are pleased with collections that bring the wildwood material to them, for then they see things that otherwise would never come under their observation. Say what we please, there is a place, and a very large place, for natural history collections, even of skins and eggs of birds, as a means of gratification for this large class of persons whom I have mentioned.

It is the mission of lower animal life to minister to the gratification of the higher. This law of nature is annunciated in the Great Book, and has ever been the basis of man's dealings with the inferior creatures. It is my creed that if a set of eggs can minister to the pleasure of any number of observers, there is no question of the collector's right; furthermore, if seven sets of eggs of any one species can serve a purpose in bringing other sets, difficult of access, into one's cabinet by way of legitimate exchange, again the collector's right is beyond moral question.

The purpose of bird protection, as I understand it, is the conservation of bird life for the end I have mentioned, the pleasure and gratification of those who can come into contact with nature in her wildwood home. Of course, there are economical and other arguments for bird protection, but beneath them all lie the idea that the birds are living creatures, having many faculties allied to the human, and that all life is sacred. But let us not sacrifice sense to sentiment, for all lower life is but a part of the great domain of environment, which is to react on the human mind and soul, and develop all our noblest faculties.

If the foregoing be true, the great test of the moral right of the collector is the proper use

of his material. If a systematist can take a series of skins, and use them to the development of an instinct or faculty which is divinely given, who has a right to question the morality of the action? If in my collecting I find a place for seven sets of eggs of the Holbell grebe, who shall say that my work was wasteful and reprehensible, provided the material is usable? What constitutes wasteful collecting? Clearly, the taking of specimens that are unavailable, not usable, or unnecessary to the advancement of human pleasure or knowledge. Let us see whether the taking of the seven sets of grebe's eggs was really wasteful.

The collecting criticized was done under the direction of the University of Montana Biological Station. It is the desire of the director of that work to build up a museum for the University that will be a credit to such an institution; in other words, to form such collections of biological material as will serve the best purposes of collections at an educational center. During the past three summers my time has been given gratuitously to this end. While I have been left largely to my own plans of work, and therefore am ready to bear all censure for my actions, it has been the wish of the director that I collect largely, obtaining even more than duplicates of skins and sets, that the museum might have exchange material with which to increase its small collections. In this way about four hundred skins, and possibly seventy-five sets of eggs have been added to the museum. These eggs are the only ones in the museum.

Now seven sets of eggs of this grebe, nesting in limited numbers in the state, will give the University five or six sets to exchange. That the exchange can be made, is shown by the fact that applications have already been made to me for all the eggs, which are still in my hands and will be disposed of to the best interests of the University museum. Two sets at least should be in the University collection. The remaining sets represent value to the museum, will fall into the hands of appreciative collectors, will enhance the value of other collections, and will consequently serve the purpose for which all collections should be made and for which lower animal life was created.

Why take all the sets of eggs of this grebe that were to be obtained on this occasion? Why not take one typical set, as my friend suggests, and leave the remainder to the course of nature? Because of the very reason he mentions, its rarity in nesting within our borders. It is doubtful that I shall ever again have opportunity of taking eggs of this species, should it be necessary; and when opportunity presents itself but once in a life-time, is the collector reprehensible for taking seven sets of eggs of a rare breeder? Is he any more reprehensible than if he should take a set each year for seven years, should the opportunity successively present itself?

Furthermore, anyone who is familiar with the habits of the swamp-breeding birds knows the uncertainty of finding the birds in the same locality in succeeding seasons. Those who have visited the extensive Dakota marshes in successive seasons testify to the fact that where hundreds of the birds were breeding one year, not a bird could be found the next. Now when a colony of grebes is found, and there is need of taking the products of the colony, the collector would be very unwise to neglect the offered opportunity, for it is not likely to be repeated another season.

This grebe colony was found on a lonely lake, almost inaccessible to ordinary observers. It is more than likely that the bird life of the region will only serve the purpose of the enthusiastic collector and hunter, at least for years to come. The eggs of the birds there breeding are far beyond the reach of all except the few; why should not one season's product be brought and placed in collections where it will best serve the purpose of human study and observation?

There is a great deal of sentiment regarding the destruction of life by the egg-collector (scientific, of course). Much of this talk is mere bosh. It does not seem difficult to show that the taking of eggs as it is done by the real ornithologist has very little effect on the decrease of bird life. In fact, I am inclined to believe that the taking of the twenty-eight eggs in this grebe colony will have very little effect upon the aggregate bird life of the region. Two second sets were taken, and it is unlikely that the owners of these eggs would nest again. The others were first sets, and it is probable that the owners would nest immediately, as conditions there remained unchanged when I left on the 20th of June. My observations elsewhere show that grebes are not loath to nesting late into July. If the birds had not been molested, each pair would likely have reared its brood. What difference can it make in the end whether the brood comes from a first or a second set? Candidly, I fail to see in this collecting the sacrifice of twenty-eight young birds, nor can I admit that the twenty-eight shells represent only a devastated bird colony and a story of cruel wrong.

We are human, and are therefore liable to err. If I have erred on the side of intemperate collecting, I am ready to acknowledge my fault, and I shall ever thank my friend for calling attention to my error. If the foregoing explanation is not satisfactory, let me offer in further extenuation the plea of our master in ornithology, Dr. Elliott Coues, that of "worthiness of motive," and let the fault be covered by the broad mantle of charity.

Respectfully,

P. M. SILLOWAY.

THE CONDOR

An Illustrated Magazine of Western
Ornithology

Published Bi-monthly by the Cooper Ornithological Club of California

WALTER K. FISHER, Editor, Palo Alto
JOSEPH GRINNELL, Business Manager and Assistant Editor, Palo Alto
FRANK S. DAGGETT, Associate Editor

Palo Alto, California; Published March 16, 1903

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EDITORIALS

The time for the Tenth Anniversary Meeting is rapidly approaching. Every member should make a serious attempt to be present, for it is likely no opportunity of a similar nature will again present itself till our Twentieth Anniversary—and that is too uncertain to be counted on!

Such a meeting as we hope for cannot fail to have a very wholesome influence, both upon the members, and upon the future work of the club. We are so scattered that it is only a comparatively few who enjoy the frequent meetings. Those who live at a distance are thus denied the benefits of the social side of the club—the association of members and the interchange of ideas and schemes which characterize our informal meetings.

The California meeting of the American Ornithologists' Union seems likely to be a success, as a circular describing the excursion has already been sent out by the committee. From this circular we learn that the "plan is to leave Chicago May 3, to reach San Francisco on or about May 13, and to hold a special meeting May 15-16 in conjunction with the California members of the A. O. U. and the members of the Cooper Ornithological Club." Already a local committee of arrangements has been appointed.

At the last meeting of the Northern Division, March 7, it was definitely decided that the Tenth Anniversary Meeting should be held at the Academy of Sciences in San Francisco, May 15 and 16, in conjunction with this special meeting of the A. O. U. The advantage of this arrangement is at once evident, and every one should be present, not only to make the two meetings a success in point of interest, but to become acquainted with those who attend. It is not often that our Eastern friends brave a journey to the "wild and woolly," and we should one and all assemble to help make their

trip to the West both enjoyable and long-to-be-remembered.

A committee now has the matter of the meeting and program in hand. You are cordially invited to write to the editor on the subject, so that we may gain some idea of who are coming. Later when plans are perfected notices will be sent to each member.

The A. O. U. Bird Bill, thru the activity of Mr. Wm. Dutcher, Dr. T. S. Palmer, Professor Wm. E. Ritter and others, has been introduced into the State Legislature. There seems to be a strong sentiment in favor of the measure, which should insure its speedy passage. The bill, which aims to give an adequate protection to our non-game birds, is essentially like the Cooper Club measure which was introduced two years ago, but which failed, as will be remembered, to secure the governor's signature. As the legislature adjourns within a few days, the fate of the bill will shortly be made known thru the daily press.

THE A. O. U. BIRD BILL
Both the editor and the business manager will be far removed from the scene of action during the coming summer. It is therefore requested that all longer articles intended for the July issue be mailed to Palo Alto not later than May 15. It will be necessary to make up the July number very much earlier than is usual, as the proof sheets will have to make a round trip of some 6000 miles. As we examine at least three proofs the reason for the request is evident.

We regret that thru lack of space the FIELD AND STUDY section has been omitted in this issue. Many short notes will appear in the May number.

Owing to an unfortunate mistake the advertising pages in the January issue were numbered 31 and 32. These numbers have been duplicated in the present issue (frontispiece, as we do not publish 'plates').

It is probable that we will hold the May issue over a few days in order to include a report of the meetings. As we expect plenty of members here on the 15th the issue will not be missed!

Notice to Members of Southern Division.

Notice to Members of Southern Division.

At the meeting of this division held on February 28, 1903, a committee was appointed to make preliminary arrangements toward the revision of Grinnell's "Birds of Los Angeles County." It is proposed to collect all material notes, etc., that will in any manner bear upon the species known to occur in the territory outlined in the above mentioned list. Members are especially requested to report all early and late nesting dates that come under their notice during the coming season with whatever migratory notes they may have.

A more detailed account of the work ex-

pected to be done will be published in the May CONDOR.

HOWARD ROBERTSON,

49 Courthouse, Los Angeles.

An Open Letter.

ALTONA FARM, LONGMONT, COLO.,

FEB'Y 10, 1903.

MY DEAR FISHER:

I am so enthused over the last issue of THE CONDOR that I must write you a few lines, to try and spread my enthusiasm. Barring the unfortunate necessity of the "Memoriam" to our dear friend Barlow, the issue was certainly a "cracker-jack"—in fact the culmination of many good numbers which came last year. The extra good paper you are using in the make-up may be a trifle expensive now, but will prove cheap in the long run. It will stand the test of time, binding and usage much better than some journals of reference now twenty years old which were not published with the same foresight.

Periodically someone gets off a howl about the "Good old days," and "the O. and O.," "What it used to be" and "Why cannot we have something as good now." But THE CONDOR of today is a much better paper than the "O. and O." ever was. We must not forget that we are twenty years older than we were in those "Good old days," and possibly with our advanced information we would not now enjoy the "O. and O." as we did then. It certainly *was* delightful and amusing reading for us: the narratives of those "big sycamore climbs" and "stick in the mud" collecting trips. But as a magazine for reference, what is its price now compared to back copies of "The Nidologist" and the "Bulletin of the Cooper Club?" The "O. and O." *did* hold the old crowd together. That was a good feature and that is what our Eastern friends realize is lacking in the journals now in their hands.

Lattin's little sheet is filling its place and so is the "Auk." "Bird-Lore" and the "Osprey" are trying to do justice to the medium, with the result that the collectors are divided between the two and are not in unison. Your country out on the coast, to-day, has the best collectors, the best union, and consequently the best journal.

Last fall I experienced delightful visits with many of the "Old Boys," Jackson, Parker, Norris, Crandall and several others; men whom you will remember assisted in the make-up of the "O. and O.," and I talked CONDOR to them pretty strong. They all have great admiration for the workers out on the coast, and for your publication. They regret by contrast, their own lack of union and the decrease of good field work in the East. Since you publish as "A Magazine of Western Ornithology" do you care

to open your columns to the *use* of Eastern subscribers?

Oology was *primary* with us in the "Old Days," now it is *secondary* (to Ornithology). That fact has worked the change in the character of our reading matter, and those old collectors, who have not put the scalpel in a more convenient place on their table than the drill and blow-pipe, are behind the times and thereby deplore the loss of the old "O. and O." At the same time I find they value a set of eggs coming from a man with a good "skin record" like Anthony, McGregor or Grinnell about six times as much as they do a set from some of "Lattin's boys." Fisher! you should have seen the look of satisfaction on Crandall's face as he pointed out to me certain sets of eggs, here and there, with the remark that "they were some of Chester Barlow's collecting."

Cordially yours,
FRED M. DILLE.

Mr. Dille's pertinent inquiry in his "open letter" as to whether THE CONDOR intends to adhere strictly to the policy enunciated in its title "A Magazine of Western Ornithology" may be answered in the affirmative. While we are always glad to publish notes and papers of a *general nature* from our eastern friends, those articles which are faunal or biographical must be distinctly western, or in other words must fall within our "geographical limits." When the present editor was associated with the late Chester Barlow, it was decided that these limits should arbitrarily extend from the west coast eastward to *include* Montana, Wyoming, Colorado, New Mexico and Texas. Outside of the United States our scope is somewhat elastic, and comprises the Pacific Coast generally, and islands of the eastern Pacific.

The right sort of bird material is limited, and we do not care to encroach on the rightful territory of eastern ornithological journals. The Cooper Club, too, is a distinctly western organization, and it is believed that to be successful, the more western its magazine the better.

Obituary.

THOMAS E. SLEVIN.

Thomas E. Slevin died at his home in San Francisco, December 23, 1902. He was born January 20, 1871, in New York City, and came to the Pacific Coast in 1878. His love of natural history began when he was a mere boy and exhibited itself in a characteristic way. The first fruits of his ornithological endeavors are still preserved. From his father, the late T. E. Slevin, L. L. D., a founder of the Geographical Society of the Pacific Coast, he in-

herited his tastes for natural science, and his uncle was also much interested in birds.

Mr. Slevin spent much of his time in collecting faunal series, as his summers would permit, among the birds of the foothills of the Coast Ranges, and the Sierras. He was an expert workman, and a careful observer. His notebooks show much painstaking labor, in very full notes on the habits and nidification of many species. He spent the early part of 1902 in Arizona, in the hope of improving his lately declining health. On his return in May he began the recataloging of his large collection. In November he came to Haywards in hopes of some slight change, and during his short stay in the town, his love of the fields never lagged.

Mr. Slevin was unassuming and modest, and not given to publicity in his work. He became a member of the Cooper Club in January, 1899, and was also an associate member of the American Ornithologists' Union. - W. O. E.

GEORGE SHOENBERGER CHAMBLISS.

George Shoenberger Chambliss, a member of the Cooper Ornithological Club, died at his residence at Altadena, Los Angeles County, Cal., February 15, 1903.

Those of us who were intimately acquainted with him had learned to admire his sterling qualities and by them his loss will be keenly felt. He was not a collector of birds but a close student of their habits, and in many ways gave encouragement and substantial aid to those who were engaged in active work, especially during the past few years of his life when the inroads of disease prevented him from taking active part himself. It was during this period that he founded what is known as the Chambliss Ornithological Library, containing many rare and out of print works of the earlier ornithologists including Audubon's 1840-1844 Edition of American Ornithology. This library is in constant use by members of the club and others interested in ornithology and forms a nucleus which in time may become the leading ornithological library of the southwest. It is already a lasting monument to the part he took in gaining knowledge of our birds and to his generosity in placing it where it will do the most good. F. S. D.

THOMAS McILWRAITH.

Thomas McIlwraith, one of the founders of the American Ornithologists' Union died at his home at Hamilton, Ontario, January 31, 1903. He was born at Newton, Ayr, Scotland on Christmas day, 1834. In 1853 he came to Canada to superintend the gas works at Hamilton. As early as July, 1860, and January, 1861, he published lists of the birds in the Canadian Journal, and in 1866 a more com-

plete paper in the Bulletin of the Essex Institute on the birds of Ontario. The two editions of the "Birds of Ontario" appeared in 1886 and 1894.—A. K. F.

Minutes of Club Meetings.

NORTHERN DIVISION.

JANUARY.—The annual meeting of the Northern Division was held at the residence of W. Otto Emerson near Haywards, January 10, President Grinnell presiding, eighteen active members and seven visitors present. The program for the evening was first presented as follows: In Memoriam: Chester Barlow, H. R. Taylor; Remarks on the Ornithological Writings of Chester Barlow, Joseph Grinnell; The Conditions of Bird Study in the Mississippi Valley, C. R. Keyes.

The following were elected to active membership in the Club: Henry W. Fowler, Palo Alto; John M. Miller, Stanford University; Agnes Frisius, Alameda. Four applications for active membership were received, from Theo C. Zschokke, Palo Alto; Lloyd Newland, Palo Alto; Herbert Brown, Yuma, Arizona; S. B. Show, Stanford University.

Officers of the Club for 1903 were elected as follows: President, H. R. Taylor; senior vice president, W. Otto Emerson; junior vice president, Chas. S. Thompson; treasurer-business manager, Joseph Grinnell; secretary, C. R. Keyes. Mr. Taylor then took the chair and appointed Mr. Walter K. Fisher as editor of the Club's official organ and also as an additional member of the committee on arrangements for the Club's tenth anniversary meeting. After a dinner, and an informal exhibit of photographs by Mr. Finley and Mr. Beck, the Club adjourned to meet with President Taylor in Alameda on March 7.

C. R. KEYES, Secretary.

SOUTHERN DIVISION.

JANUARY.—The January meeting of the Southern Division was held on the 31st at the residence of H. J. Lelande, Los Angeles, with Mr. Daggett presiding. The following members were present: Messrs. Renwick, Richardson, Howard, Daggett, Swarth, Robertson and Lelande. Mr. Herbert Brown whose name was proposed for membership at the January meeting was duly elected. The secretary read a communication from Rev. F. Reiser tendering his resignation as a member of the club. On motion the resignation was accepted. A very interesting paper by Mr. C. S. Sharp, "Some Unusual Nests of the Bullock Oriole," was read and photographs of nests exhibited. A paper on "Bird Notes from Eastern California and Western Arizona" by Mr. F. Stephens was read by Mr. Daggett. After discussing various bird subjects the meeting adjourned.

H. J. LELANDE, Secretary.

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THE CONDOR

A Magazine of Western
Ornithology



Volume V

May-June, 1903

Number 3



W.K.F.

COOPER ORNITHOLOGICAL CLUB

Smithsonian Institution
MAY 20 1903

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YOUNG CASSIN VIREOS.

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume V

May-June, 1903

Number 3

Two Vireos Caught with a Camera.

BY WILLIAM L. FINLEY.

ILLUSTRATED BY HERMAN T. BOHLMAN.

IN the springtime the needle of our nature turns to the green fields and wooded hills. This is a season of joy and fascination more to the lover of birds, perhaps, than to any one else. Each day heralds the arrival of some old acquaintance, and each year one listens with deeper enthusiasm to the glad love songs of his feathered friends.

Oregon is an ideal place for the naturalist. The great tracts of wooded region extending along the numerous rivers and over the mountains furnish innumerable retreats for the birds. Feathered creatures may seem rather scarce to the casual observer and it may take a little longer to acquire their acquaintance, but once you have discovered their favorite haunts you are never disappointed.

June is the favored month of the birds and flowers in this northern climate. Fields are yellow and white with buttercups and daisies. The syringa is just beginning to blossom on the hillside, the wild currant is drooping with pink clusters of bloom, and black-berry vines are covered with white masses of flowers. Along the sides of every little stream, hurrying down through the canyons, are banks of moss and ferns. Bird voices resound from all directions during this season of song. At the first dawn of the morning's light we are awakened by the rollicking carols of the grosbeak, robin and tanager. The full rich tone of the meadowlark makes every field resound. The cheery twittering of the violet-green swallow is heard continually as he skims by with grace and ease, and, circling overhead pauses on some wire. The ringing notes of the bullock oriole are scattered downward from the top of some poplar or maple. The dreary call of the wood-pewee, the warbling of the vireo, and the sweet chant of the purple finch are heard among

the trees. Later after most of the other birds are quiet for the night, the vesper-hymn of the russet-backed thrush, from far up the hillside, thrills us to the soul and forms a fitting close for the day.

The vireos are cheerful, pleasing little songsters. Two varieties are quite common about Portland, the Cassin, and western warbling. However, one may find three or four nests of the former to every one of the latter. One peculiar difference we have noticed in the nesting of those two birds is that the home of warbling vireo is generally nearer the ground and, of course, is a trifle smaller than that of the Cassin. Three nests found last year were all between four and six feet up, while the Cassin vireo seldom builds less than twelve feet and often as high as twenty feet from the ground.

While out photographing during the second week of May last year we saw a



PHOTO BY H. T. BOHLMAN.

WESTERN WARBLING VIREO FEEDING YOUNG.

Cassin vireo tugging at the loose shreds of the bark of a maple tree. We had a pretty good idea for just what a vireo needed bark at that season of the year, and, by judicious watching, we were led down the canyon to where a little basket-like structure was swung gracefully near the top of an alder tree. Along the bank of some little stream in an alder, maple or dog-wood tree is the favorite haunt of this greenlet.

The nest in its natural position was too far from the ground to be photographed, so after waiting till the youngsters were about half grown we lowered the limb, to which the nest was attached, to within five feet of the ground, with apparently no inconvenience or trouble to the parents. A few minutes after the house-moving the parents were busily feeding the young in their new location.

Although rather shy at first the old birds became tamer after we had stayed around near the nest for a time. Their shyness we found was only an indication of their finer natures. They paid no particular attention to the camera, covered with leaves and branches, until they heard the sharp click of the shutter. This they regarded with suspicion and alarm and it was not till after the third day that the parents did not take immediate flight at the snap of the shutter.

The Cassin vireo is readily distinguished from the warbling vireo because it is slightly larger in size and has a clear white ring about the eye and a white loreal streak. The wing has the two white bars, distinguishable in both old and young birds, and light-edged feathers, while the under parts are white, tinged with yellow in contrast to the dull olive-green on the back.

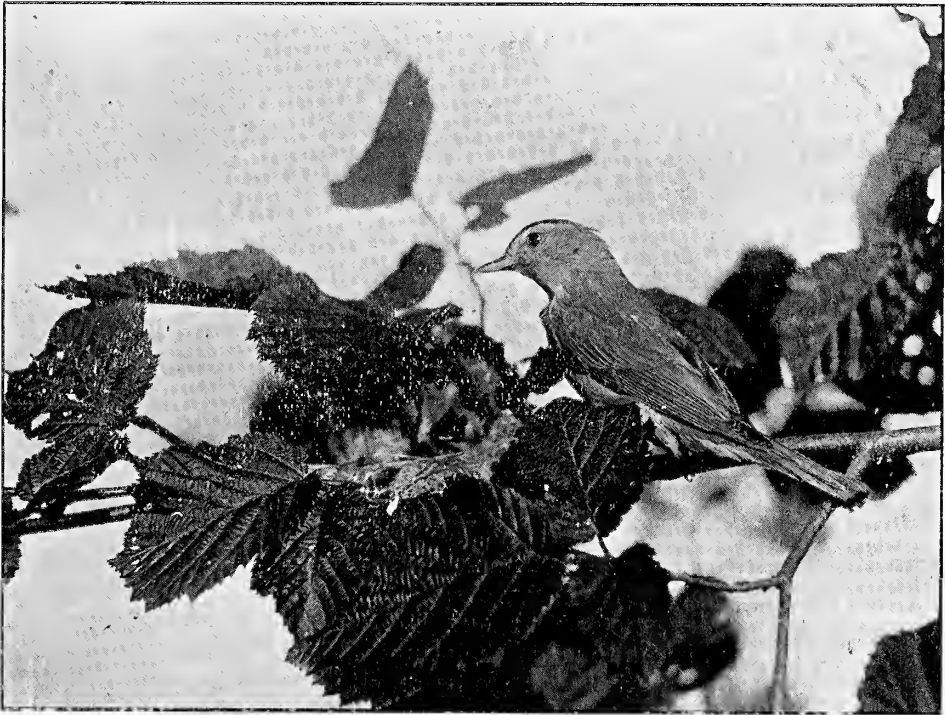


PHOTO BY H. T. BOHLMAN.

WESTERN WARBLING VIREO AT NEST AFTER FEEDING YOUNG.

The western warbling vireo seems to nest a little later than the Cassin. On June 25th of last year, while following up a little mountain stream, we were attracted by the call of one of these birds and soon discovered the cup-shaped nest tied to the limbs of a hazel bush only four feet from the ground, a good position for the photographer. The nest was completely concealed by leaves from one side and was built so as to be well sheltered by a leaf from above.

The first morning we discovered the nest it contained four eggs and one newly hatched bird. It seemed to be an exceedingly restless and anxious time for the mother; as we watched her from the tall ferns, she kept putting her head down under her body to view her first-hatched and to see how the other eggs were progressing.

The next day all the eggs had hatched and we found both parents busily engaged in carrying food to the young. As soon as the mother fed her offspring she brooded them till the father appeared with food, then he would in turn care for and protect the young from the cold. So during the entire day each performed

an individual share in household duties. Often both parents were at the nest together, but at such times fortune did not favor us in getting a photograph. We were able to picture the mother, however, as she paused just for an instant beside the nest after feeding her young and again just as she reached under the protecting roof to feed the nestlings. In these pictures a distinct lacking of the wing bars will be noticed, which is a peculiar mark of the Cassin vireo. The other distinguishing mark, a white streak through the eye is readily told from the orbital ring about the eye of the other vireo.

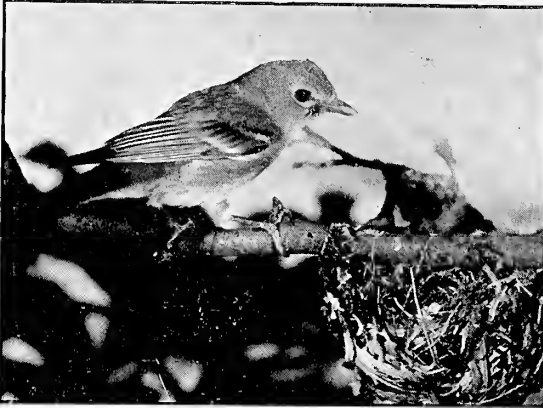


PHOTO BY H. T. BOHLMAN
CASSIN VIREO AT NEST.

A Remarkable Flight of Louisiana Tanagers.

BY W. OTTO EMERSON, HAYWARDS, CAL.

ONE of the most wonderful occurrences of the movements of birds in the season of migration which ever came under my notice, took place at Haywards during May, 1896, when countless numbers of *Piranga ludoviciana*, or Louisiana tanagers, began to make their appearance between May 12 and 14. From the 18th to the 22nd they were to be seen in endless numbers, moving off through the hills and canyons to their summer breeding range in the mountains. This continued till the 28th, and by June 1 only here and there a straggling member of the flock was to be seen.

They were first found feeding on early cherries, in an orchard situated along the steep bank of a creek, on the edge of rolling hills, well covered with a thick young growth of live oaks, which faced the orchard on the east. To this thick cover they would fly, after filling themselves with cherries, and rest till it was time to eat again. This they would keep up from daylight till dark, coming and going singly all day, without any noise whatever being heard.

Two men were kept busy shooting them as fast as they came into the trees which lay on the side next to the oak-covered hills. The tanagers at first seemed to take no notice of the gun reports, simply flying to other parts of the orchard. During the first week one of the gunners took his stand at the other side of the orchard, along the creek bank, under some tall willows, where the birds would come and alight, after being shot at so often. After the first week, I found on go-

ing here (May 17), that dozens on dozens of the birds were lying about. For the first two weeks the birds so found were mostly males, but later on the greater numbers were composed of females and young of the year, in gray and light olive green plumage.

On the 22nd of May, in driving through the canyon, some nine mile to the other side of the range of hills between Haywards and the Livermore Valley, I found the tanagers scattered through the black oaks. They were moving eastward, more notably in the morning. In the middle of the day they kept to the cool thick foliage.

In the orchard from fifty to sixty shots a day were used, but they seemed to make no decrease in the number of tanagers that came every day to feed on the ripening cherries. Tanagers lay about everywhere, and no doubt many must have flown off to die in the bushes or on the hill sides. The neighboring cats soon found out the feast, and every night would come to have their fill of the gay colored birds. In counting up the two weeks' continual shooting of say three dozen birds a day, at the least, of forty to fifty shells used, we have a total of over 600 birds killed, and it may have run up to a thousand, as the neighboring boys came in with their guns to have a shot at them also, for fear the birds might come to their orchards next.

I noticed one fact of the restriction of the tanagers to the orchards along the hill edges. None were found, so to speak, in the larger orchards about the town

of Haywards. I found them only for a few days in my own orchard, that is to say from the 26th of May to June 4th. After shooting at them once or twice, they became very shy, flying to the tall trees along the creek as soon as any person was seen.

At this time large flocks of waxwings, or cedar birds, were about the orchard trees, but I found that they did no damage to the fruit (as they are known to do in the eastern orchards). Mr. R. H. Beck notes tanagers all through the Calaveras Valley to the San Joaquin Valley up the mountains to Lake Tahoe of the Sierras. Mr. H. Keading tells me he met with them all through the mountains about the vicinity of Mono, Elnora and others of the high Sierra lakes. From my records for Haywards, for the last fifteen years, I have only noted them twice: a female shot May 28, 1880, and a female seen May 21, 1883. Mr. W. E. Bryant mentions them as not a common bird about the Oakland hills. Mr. H. A. Gaylord of Pasadena, Cal., in a letter under date of June 16, 1896, states that "they were seen singly from April 23 to May 1. From this date up to May 5 their numbers were greatly increased, and by May 5 there was an unusually large number of them. Then for about ten days, until May 16, the

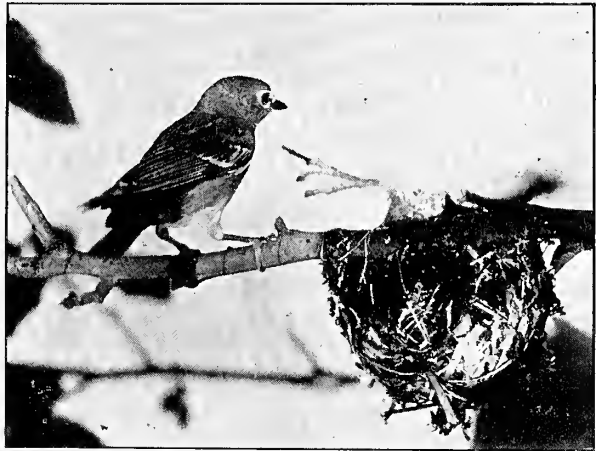


PHOTO BY H. T. BOHLMAN.

CASSIN VIREO.

great wave of migration was at its height. Tanagers were seen everywhere, and noticed by everyone. After May 20 they decreased in numbers, and by May 26 the last ones had left the valley. The number of these tanagers now breeding in our mountains is no larger than usual." He also says, "the damage done to cherries in one orchard was so great that the sales of the fruit which was left, did not balance the bills paid out for poison and ammunition. The tanagers lay all over the orchard, and were, so to speak, 'corded up' by hundreds under the trees."

It will be seen that the main body of this wave of migration did not reach this part of the state till eight days later—May 22 at Haywards. The last ones were seen June 4 to 6 at Haywards, while at Pasadena Mr. Gaylord says the last ones were seen May 28, eight days earlier than those which were observed here.

There must have been thousands of tanagers destroyed all through the path of their movement along the state, as they worked their way to the breeding grounds.

What caused these unusually large numbers of tanagers to move so regularly through the State, can hardly be known with accuracy. It may have been brought about by a late cold wave meeting them on their way northward from their winter home in Central America, and they may have been impelled to move together in large companies to where food was plenty, and the weather milder. On April 15 we had a hard killing frost all through the State, which would, no doubt, throw these tanagers together, as it did many other of our spring migrants. This fact I noted while in camp at the foot of Mt. Diablo, April 11 to 19, 1896. On one or two mornings large numbers of birds were observed in the canyon, while it was warm and sunny. But as soon as the cold spell set in, all bird life seemed to have suddenly disappeared, to appear again several days later. This was particularly true of the white-throated swifts and violet-green swallows. Three times the birds left the canyon bare of the summer visitors. The last time they returned late one afternoon, when, at sundown, the air was alive with swallows and swifts sailing along the face of the cliffs, or over the tops of the oaks. The next morning found the canyon awake with bird life and song, showing that the cold wave had passed.

The Harris Hawk on His Nesting Ground.

BY FLORENCE MERRIAM BAILEY.

FIFTEEN miles west of Corpus Christi, Petranilla Creek throws a belt of rich vegetation across the prairie. Its walls are crowned with elms and live oaks whose serried branches are hung with waving gray moss, while encircling a floor massed with pink primroses grow a mixture of Mexican and United States trees and bushes—hackberry, ash, palmetto, all-thorns and cactus. Birds and mammals naturally flock here and also show southern admixtures, the clay banks of the creek being tracked up by coon, coyote, wild cat, and armadillo, while in April and May the trees are alive with such birds as the cuckoo, chat, wren, wood pewee, kingbird, cardinal, and a variety of warblers including the blackburnian, together with the golden-fronted woodpecker and nonpariel.

As we were admiring the beauty of the place our attention was attracted by the cries of a mockingbird pirouetting around a big Harris hawk (*Parabuteo unicinctus harrisi*) perched on the bare top of a tree in the open. The mocker would

flounce around him distractedly, or lighting close beside his ear or under his bill look up at him and scream in his face; but through it all the dignified bird of prey would plume his feathers as unconcernedly as if his assailant had been a buzzing gnat. Sometimes, it is true, the mocker would fly at him and hit him on the back so hard that his tail would fly up involuntarily, and once, having silently received seven blows in quick succession, Harris' deliberating a moment, turned his stately head and gave a reproachful scream in a hoarse warning tone. The mocker was so startled by this unexpected rebuke that he fairly sat back on his perch. Then as if that were all there was to say on the subject, the big bird with a heavy jump faced around on another branch, to spy out the land in another direction. Though the mocker promptly returned to the charge, Harris sat calmly on one foot in



FROM THE BIOLOGICAL SURVEY.

NESTING GROUND OF HARRIS HAWK.

philosophic oblivion of all but his own thoughts. The play lasted for the hour that we were in the neighborhood, with unabated vigor on the part of the mocker and unflinching superiority on that of the hawk.

The reason for Harris' attachment to the neighborhood became apparent later when we discovered his nest in a moss hung hackberry on the bank of the creek. Two big heads showed above the mass of sticks and Mr. Bailey climbed the tree to get a photograph of the young. As he got to the nest they burst from it, sprawling out over the branches, and one of them fell prone to the ground. He tried to amble off when approached but was easily caught and quieted. While I was examining his plumage, Mr. Bailey called down in astonishment over the wood rat golgotha he had found in the moss-lined nest—skeletons enough to more

than explain the preoccupation of the big bird in the tree top. While studying the nestling, noting his dark brown eyes, and the lemon yellow of his face-skin and bare legs, I quite forgot his weapons, but, disturbing him a little had such a forcible reminder in the sharp sting of his talons that when I finally loosed them and put him down on the ground, I went away with little fear for his safety, though he had prematurely left the nest.

Stray Notes from Southern Arizona.

BY F. H. FOWLER.

ALL the original material in the following notes was collected by the author during a four years' residence in Arizona, September 1890, to October 1894. Most of the work was done in the Huachuca and Chiricahua Mountains, and in the San Pedro, Sulphur Springs, and San Simon Valleys, in Cochise County, the extreme southeastern corner of the Territory. A few notes were taken during a trip as far north as Prescott, in the months of May, June and July in 1893.

MASSENA PARTRIDGE. The Massena partridge (*Cyrtonyx montezumæ mearnsi*) is essentially a bird of the lower pine and oak belts in the mountains of Arizona. Its range north of our borders is quite extensive, reaching as it does from the national boundary between Arizona and Mexico, north to Prescott, east to Taos, New Mexico, and south to the eastern limit in the Bandera Hills north of San Antonio, Texas. Personally I have met with this bird in the Huachuca, Carmelita and White Mountains of Arizona. In the month of July 1891, I saw large flocks of these birds in the open grassy glades among the live oaks on the southern slope of the Huachucas a few miles north of the Mexican line. They were more numerous here than at any other point at which I have observed them, the flocks numbering fully twenty-five birds, doubtless comprising two families. The country was ideal for them as food, water and shelter were close at hand, and natural enemies were few.

The next place I found them was in the Carmelita Mountains; a range of heavily wooded hills extending west from the northern end of the Huachucas. I was out in these hills for a few days in the latter part of March 1892, and found that the Massenans had already paired and were evidently busy hunting up good nesting places. I saw only two pairs, but these showed how different the actions of birds of the same species can be under the same conditions. The first pair I came upon in some open oak brush; both birds walked slowly off—the male uttering a very low, clucking note and both puffing out their derby-like crest. I shot the male at a very close range, and the female flew out of reach with a speed which I think cannot be equalled by any other species of the quail family. The next pair ran a few yards, hid in the grass, and when I pursued them on foot, flew up with an equal speed and disappeared behind a thick grove of trees.

In a canyon about a mile above the post of Fort Huachuca, a female evidently had a nest hidden among some scrub oaks and mescal plants. She was seen at this place at least half a dozen times during the latter part of May 1892, skulking away through the brush, but a careful search failed to reveal the nest. In this canyon also were several small coveys of six or eight each, which could be found along the trail almost any day, and when discovered would usually run swiftly, single file for the brush, where they would scatter to hide.

The last time I saw this feathered beauty was on the North Fork of White River about twenty miles above Fort Apache. I was cutting a fishing pole from some willows on the bank of the stream, which runs through an open pine forest. Suddenly as I stepped on a large bunch of wire-grass, I was startled by a pair that went roaring up from the other side with the usual speed and clucking. From what I have seen, though my observations have not been extensive, I believe that the Mogollons and White Mountains mark their northern range in the territory.

Considering the fact that the bird had been well known for so many years, it seems strange that the first nest was not discovered until 1890 and was not described until Bendire's first volume was published in 1892.

BAND-TAILED PIGEON. The band-tailed pigeon (*Columba fasciata*) a bird described from a specimen taken at what is now Castle Rock, Colo., cannot be called an Arizona bird proper, but is, I think, found in any of the Arizona mountains where the live oaks or junipers are abundant, as it depends chiefly on these trees for its food, and when not restrained by its nesting cares, wanders over the mountains following the ever changing supply of berries, acorns and juniper buds.

In the Huachuclas when the wild mulberries were ripe, they would be found on the east side of the mountains near the centre of the range. When the juniper buds appeared they were more numerous on the west side, in the Carmelita Hills, and when the acorns ripened they scattered over the whole range through the oak woods.

When the breeding season draws near, they betake themselves to sheltered places among the lower mountains, and nest in scattered communities, or as I have seen in several cases, a pair will nest apart from the others. One of the largest breeding communities I noted, was in a little pocket in the mountains, about five miles south of Fort Huachuca; this little place was at the head of a short canyon, and was indeed an ideal spot for birds, as it was well wooded and watered. Here a flock of about thirty-five pairs of band-tails nested in a scattered rookery, probably not averaging a nest to every three or four acres at the most thickly populated part; and a great majority of the nests were even farther apart than this. The nests in this colony were all placed on the forks of low horizontal limbs of live oaks usually not more than twelve feet up or less than nine, and in no case did I find more than one egg or squab in a nest. The nests were all of that very simple dove-like construction consisting of a few sticks placed on a fork of a branch. Not all of the birds nested at the same time, as fresh eggs and week-old squabs were found on April 16, and two nests containing a fresh egg each were found on May 9 in this colony. The two cases of pairs nesting outside of colonies, and I do not think these cases are unusual, were, first, a nest found on a low limb of a juniper in the Carmelitas, containing one egg about a week incubated on the 2nd of April 1892, and one in a juniper on a steep hill side above Fort Huachuca.

I believe that the habit of carrying the eggs off in the feathers, or held between the legs, as noted by Mr. O. C. Poling in Bendire's first volume, requires further proof.

COPPERY-TAILED TROGON. The coppery-tailed trogon (*Trogon ambiguus*) is without a doubt one of the rarest birds that reaches our southern borders, and from all present records, it is probable that the center of its abundance within our borders is in the Huachuca and neighboring mountains of Arizona. Lieutenant Benson of the 4th Cavalry shot an immature male in the Huachuclas on August 24 1885. Several were seen or collected by Mr. Lusk in 1891 and in the same year

a ranchman living in Ramsay Canyon saw several, the first on May 17, and noted that they were most common during the cherry season.

On June 9, 1892, my father and I accompanied Dr. A. K. Fisher to Garden Canyon seven miles south of the post. We reached the canyon and were riding up the narrow trail bordered with pines and live oaks, when suddenly a beautiful male trogon flew across the path just ahead of us, and perched on a live oak bush on the other side of the small stream which flows through the canyon. The Doctor tried to approach it, but the noise caused by his passage through the thick brush and over the sliding rocks on the hill side alarmed the bird, which from the first had seemed a trifle uneasy, and it was soon lost to view among the trees down the canyon. Higher up, among the pines, on the same day, we heard the calls of another which sounded much like those of a hen turkey. While we were eating lunch on the way down, we heard still another calling from the hill side above us, and the Doctor, who found it perched on the lower limb of a pine after a short search, watched its actions for a few moments and then shot it. It sat erect, the tail hanging straight down, and when uttering the call threw its head back until its beak peak pointed nearly straight up.

On August 14 of the same year I again found the trogon in Garden Canyon, this time higher up however at the Picture Rocks. A beautiful pair flew up from a fallen pine to the lower limb of a tree, and sat there quietly watching me. I dismounted and fired a reduced charge at the male, but the only effect was that he flew off through the trees unhurt, while the female flew up to a small tree on the hill, where she sat, looking at me until I loaded my gun, when I shot her. At the second shot the male flew up the canyon his beautiful carmine breast gleaming in the sunlight like a streak of flame. Both birds sat nearly erect when at rest, with their long tails hanging nearly straight down. Their flight was nearly like the slow flight of a magpie, until started, when they flew like a dove and nearly as fast.

In 1892, Dr. E. A. Mearns, U. S. A., shot an adult female in the San Luis mountains, in southwestern New Mexico. Its tail was much abraded as if the bird had spent a long time in very limited quarters and the breast feathers of the bird I shot were also much worn and soiled. These signs go far to show that both birds had nested recently, and there is no doubt that sometime in the near future a nest of this bird will be found within our borders.

MEXICAN BLACK HAWK. During my stay in Arizona, I was not fortunate enough to find the nest of the black hawk (*Urubitinga anthracina*) and in fact, saw but few of them. Near Fort Huachuca there was a pair which bred in 1892. I never saw both at one time, but feel very certain that there were two, by the behavior of the individual I did see. Nearly every day, for a month or more, this large, odd-looking hawk, was seen soaring high over the foot hills back of the post, or hunting diligently in the canyons and gulches above the reservoir. The nearest view I had of him, was one day when I saw him out hunting; he was coming toward me and I concealed myself quickly behind a tree, and just before he came in range he made a swoop, capturing a green-tailed towhee, which was at once carried to the top of an oak stump, where the hawk proceeded to tear the feathers out.

In February, 1894, while hunting antelope on the plains below Fort Bowie, I put one up out of some brush, about two hundred yards in advance, and thinking I might find some cause for his being there, I started toward the place. I had not gone far when another arose, and then another and another, until four went sail-

ing away. I examined the place, but found nothing to account for their presence.

At the Natural Bridge near Fort Verde, I saw several nests of this bird in 1893, some of which were old, but several new and containing young. One or two were in cups in the rock of the bridge; the others in giant sycamores; that grew in the narrow canyon. The old Scotchman, Dave Gowan, who owns the bridge, called them "Black Falcons," and said they had nested there for years. They are much more common in this section, than in the southeast corner of the territory.

The California Yellow Warbler.

BY JOSEPH GRINNELL.

THE object of the present paper is to recall attention to the California race of the yellow warbler with a view to its being generally recognized in nomenclature. The fact that skins from certain western localities exhibit peculiarities in size and color is not by any means a new one. That keenest of last-century systematists, Baird, in 1858 noted that "specimens from the Pacific coast appear rather smaller, with less conspicuous streaks than eastern, but no other differences are appreciable." Nearly thirty years later, in 1887, Coale worked over the yellow warblers of North America, with the result that "the western race" was given the name *Dendroica aestiva morcomi*, typeship being conferred on a skin from Fort Bridger, Wyoming. Shortly after, Ridgway included a description of the subspecies in regular standing in his Manual, where it remained in the last edition. In 1899 the A. O. U. Committee rejected the race, and it has not since been reconsidered. In spite of the A. O. U. Committee's ruling a few independently observant students have since then ventured to recognize the "Western Yellow Warbler," using Coale's name. Ridgway has recently changed his opinion as to the value of the characters assigned in his Manual. For in Part II of his *Birds of North and Middle America*, he writes in a foot-note: "I am not able to make out satisfactorily a western form (*D. a. morcomi* Coale). Western specimens seem, as a rule, to have shorter wings and longer tails than eastern examples, and adult males are often much less heavily streaked beneath; but the differences appear much too inconstant to justify recognition of a western subspecies." Finally Brewster, in his *Birds of the Cape Region of Lower California*, makes the following well-considered observations: "The remaining six birds [from the Cape Region] apparently belong to the form which breeds in California, and which, although usually called *aestiva*, has been referred by a few writers to *morcomi*. It differs rather constantly from *aestiva* of eastern North America in having the chestnut streaks on the under parts narrower and fainter in this respect, showing an approach to *sonorana*, from which, however, it may be readily distinguished by the decidedly darker, greener coloring of its upper parts. The female is similar to *aestiva* (although less often streaked beneath) and hence quite different from that of *sonorana*, which is grayish above and clay-colored beneath, with but faint traces of yellowish on the body plumage. On the whole the yellow warbler of California seems to me too nearly like true *aestiva* to be recognized as a distinct subspecies. In any case it should not be called *morcomi*. At least Mr. Ridgway and I agree in considering the type of that supposed form merely an exceptionally faintly streaked specimen of *aestiva*, of which, moreover, the National Museum possesses a number of *perfectly typical*

examples from the same general region (i. e., Utah and Montana), one of them being actually from the same locality (Fort Bridger)." It would appear from the foregoing quotations that the chief objection to the recognition of a Pacific coast race is the inconstancy and comparative slightness of the distinguishing characters.

For the past three years I have taken pains to personally gather a series of California yellow warblers, and these, together with similar material kindly loaned me by Mr. T. J. Hoover and Mr. F. S. Daggett, amount to ninety seven specimens. The former has also provided a series of eastern birds, and the National Museum, through Dr. C. W. Richmond, has granted me the use of a most requisite series of yellow warblers from the Rocky Mountain region. Even a superficial view of the above material suffices to impress one with the conspicuous peculiarities of the California race, as distinguished from the bird of the Rocky Mountains and eastward. These differences are surely of as much value as those marking the lutescent warbler, long-tailed chat, golden pileolated warbler, Calaveras warbler (much more so!), or many others of the better-known subspecies that could be mentioned.

As to the application of the name *morcomi* the remarks of Mr. Brewster seem wholly correct. Coale's name was based on individual extremes of *Dendroica æstiva æstiva*, as well as on examples of the actually different race from west of the Sierra Nevada Mountains. The type was undoubtedly one of the former, hence the necessity of retiring the name *morcomi* to the synonymy of *æstiva*, and supplying the California race with a new name. This I do, commemorating in the name selected an ornithologist toward whom we feel grateful for his extensive and careful work on western birds.

Dendroica æstiva brewsteri new name.

SUBSPECIFIC CHARACTERS.—Resembling *Dendroica æstiva æstiva*, from which it differs in smaller size, paler (or less brightly yellow) coloration, and, in the male, narrower streaking on under surface; differs from *Dendroica æstiva rubiginosa* in much smaller size and yellower coloration, and from *Dendroica æstiva sonorana* in smaller size and much darker coloration.

TYPES.—♂ ad.; No. 4701 Coll. J. G.; Palo Alto, California; May 18, 1901. ♀ ad.; No. 4154 Coll. J. G.; Palo Alto, California; May 14, 1900.

(The types were carefully selected to represent the *average* manifestation of subspecific characters.)

DESCRIPTION OF TYPES.—*Male*. Whole mantle and hindneck yellowish olive-green (the feathers with faintly more yellowish edgings), becoming lemon yellow on rump, and subdued Indian yellow on crown and forehead; wings and tail "fuscous" edged with canary yellow; sides of head and throat lemon yellow; rest of lower parts deepening into gamboge yellow; breast and sides "narrowly" streaked with chestnut (approaching liver brown), these streaks approximating one millimeter broad at widest. *Female*. Upper parts olive-green, becoming more yellowish on rump and forehead; lower surface pale canary yellow, weakening to primrose yellow on lores, throat and belly; sides faintly and very narrowly streaked with pale liver brown.

MEASUREMENTS (in inches).—

♂			♀		
	Wing.	Tail.		Wing.	Tail.
54	Average	2.45	30	Average	2.33
	Minimum	2.25		Minimum	2.18
	Maximum	2.61		Maximum	2.48
					2.07

DISTRIBUTION.—Transition and Upper Sonoran Zones west of the Cascades and Sierra Nevada from Oregon to Southern California. Specimens examined from Oregon: Salem*; and California: Siskiyou, Battle Creek, Redding, Amador City, Palo Alto*, Santa Cruz, Los Angeles*, El Monte, Pasadena*.

INDIVIDUAL VARIATION.—In the matter of streaking in the male there is surprising constancy. Among the fifty-four adult males of *brewsteri* at hand, but one specimen (No. 1849, Coll. T. J. H., Palo Alto, May 7, 1898) is so heavily streaked as to resemble in that respect even the lightly streaked extremes among thirty-seven males of true *æstiva*. This specimen is also brighter yellow than usual, and closely matches No. 10983, Coll. U. S. N. M. (Fort Bridger) which is a topo-

type of *morcomi* and unusually narrow in its streaking. But in this case, the small size of the California skin at once distinguishes it. The same example also very closely resembles a skin from Delavan, Wisconsin, and one from East Providence, Rhode Island, both of which are unusually lightly streaked for *astiva*. The Rhode Island skin (No. 1613, Coll. T. J. H.) is also smaller than the eastern average, so that the differences in this instance I confess to be not obvious. But this only goes to show how the normal range of variation in two subspecies may result in close resemblances in certain individual cases. And this is exactly what must be expected where the degree of difference is not greater than the normal range of individual variation. Among the females the color differences appear even more constant. Among thirty examples of *brewsteri* there are none so yellow as to be comparable to any of my *astiva*. But the available series of the latter (thirteen) is altogether too small to make a conclusion at all satisfactory. The yellowness of females from the Rocky Mountains and eastward holds in all the examples at hand as a distinguishing character from California birds. But in each series there is considerable variation, and it would not be surprising if overlapping of characters would be found in larger series. Discrepancy in size ought still to offer a valuable criterion in the great majority of specimens. Out of the present series (one hundred and sixty in all) only about three per cent of specimens are not with certainty identifiable without reference to locality. The average differences are perceptible at a glance to any one. I therefore recommend that the California yellow warbler receive recognition in nomenclature along with the many already accepted subspecies of the same rank.

Nesting Dates for Birds in the Denver District, Colorado.

BY FRED M. DILLE.

SOON after I began the exchange and barter of "bird eggs" at Greeley, Colorado, in 1882, I noticed that altho the data coming from the East was nicely written and arranged according to the rules of "Lattin's Hand-book," the dates of collecting for allied species were not good guides for me in my raids about my own locality. The Colorado calendar appeared to be later than the Eastern by from one to four weeks. I therefore began to list my results as to sets, their state of incubation and date of collecting, which list thereafter made my finds much more satisfactory. After moving to Denver in 1892, I continued my work on the list, and it was found of much service by friends coming from the East who wished to do some collecting, and who realized after experiencing a good snow storm in May that their Eastern knowledge would not benefit them much here. I hope therefore the publication of these oological secrets will prove of value to all new comers. For I know that, if we Colorado boys were to try our luck in California or Maine, we would lose much time if we could not get help of this nature.

The first aim of an oological collector is to find his sets full, as to the number of eggs, and at the same time lacking incubation. The next plan is not to waste your time beating about for meadowlark's nests when the killdeer and her nest demand it. These points are the gist of the list. I have bunched the varieties as much as their averages will permit, and from the time that collecting becomes interesting I have put them one week apart. Collectors who are employed in banks, offices, etc., will perceive the utility of this arrangement without more disclosure.

The first criticism I expect will be to the effect that some one has taken a set of 8 magpie, fresh on April 15. So have I, but I have also taken 253 sets of magpie and the date given on the list has given the best results. Most all of these dates are therefore the result of much collecting and many years work. I have

not put every bird on the list; something over one hundred varieties are supposed to nest in this vicinity and it is not necessary to make it so long. "Birds of a feather can be flocked together."

This is the result of work in the district from Denver to Cheyenne and westward to the foothills of the Rocky Mountains, a piece of country of an elevation ranging from 4000 to 5200 feet, crossed by many streams, and much of which is under high cultivation. Our weather in the spring is very uncertain. There is snow and frost often in the month of May, and the trees native to the country are not in full leaf until May 15. The settlement of the country has not changed the habits of the weather and therefore the birds have not changed their dates.

From the foothills, westward, the altitude increases from 5200 feet to 9000 and more, in a traveling distance of thirty miles. One can therefore put in a good season at the foothills until about June 15, and then in a day's journey locate near timber line and obtain another fair season. There are numerous birds which nest both at the foothills and throughout the intervening country to the high altitudes, notably the bluebird, hummingbird, siskin, dipper, Lewis woodpecker. The difference in date for the same species and at different locations is very noticeable. I have on hand much data for a high altitude list, but wish to strengthen it with more field work in those regions before publication.

Since this is a list for oologists, will the critics please overlook my lack of the scientific in stating my bird. They will know which ones I mean, better perhaps than if I used the shifting nomenclature of the A. O. U. I also wish to keep out of trouble on the subspecies business. The list pertains to the *dates of nesting* of certain species, and to be more exact in the hair-splitting is immaterial.

If you will read the "A. O. U." check-list somewhat, you will find that this identical strip of country has been used for the dividing line between the "Eastern" and "Western," the "American" and the "desert" varieties on scores of birds, and therefore you had best keep out of the "committee room" yourself. There are dates for *initial* sets, resultant from spring migration and the regular order of nature. Second sets are accidental and irregular.

MARCH: 1,^a golden eagle; 12, western horned owl.

APRIL: 15, Rocky Mountain screech owl; 22, short-eared owl,^b American magpie.

MAY: 1, great blue heron, ferruginous roughleg,^c sparrow hawk, long-eared owl,^d desert horned lark^e; 8, crow, killdeer, mallard duck; 15, pine siskin, Say phoebe; 22, western robin, burrowing owl, meadowlark, mountain bluebird,^e white-rumped shrike; 29, Brewer blackbird, yellow-headed blackbird, red-winged blackbird, cowbird, song sparrow,^f mourning dove, red-shafted flicker, Forster tern,^g black-crowned night heron, American bittern, mountain plover.^h

JUNE: 5, western red-tail, coot, Swainson hawk, sage thrasher, mockingbird, red-headed woodpecker, Lewis woodpecker, barn swallow, cliff swallow, rough-winged swallow, kingfisher, dipper, bobwhite, house wren, lark bunting; 12, kingbird, Arkansas kingbird, Cassin kingbird, black-headed grosbeak, avocet, vesper sparrow, Audubon warbler, yellow warbler, long-tailed chat, Bullock oriole, catbird, spurred towhee, broad-tailed hummingbird; 19, American eared grebe, cinnamon teal, ruddy duck, western night hawk.

a. Figures refer to days of the month.

b. I have but little data for this owl.

c. Bear this date in mind, fully one month before the other hawks of the plains.

d. May 4 is about right for this; May 8 is too late.

e. The most unsatisfactory date on the list, for owing to snow and snakes, they nest and re-nest from April 20 to August 1.

f. In bird boxes, etc., previously occupied they will nest two weeks earlier.

g. By A. H. Felger, Denver.

h. May 29, should be Decoration Day.

Bird Notes from Eastern California and Western Arizona.

BY FRANK STEPHENS.

IN the summer of 1902 I made a collecting trip through portions of eastern California and western Arizona in the interests of the U. S. Biological Survey. By the kind permission of Dr. C. Hart Merriam, Chief of the Biological Survey, I am enabled to publish the bird notes in THE CONDOR.

A description of the route followed will be necessary for a clear understanding of the region worked over and the relationships of the bird life therein.

Leaving the eastern end of the San Geronio Pass the middle of May we crossed a small corner of the Colorado Desert; thence we traveled northward through the Morongo Pass at the eastern end of the San Bernardino Mountains, coming out on the Mohave Desert. Another day's drive eastward took us to Twenty-nine Palms, a small oasis of rather alkaline soil surrounded by barren desert. There was little bird life here and a sand storm which continued through our short stay kept the few birds there were about from showing themselves. A drive of forty miles northward over very sandy desert took us to the next water at Bagdad on the Santa Fe R. R. We then followed the route of the railroad northeast fifty miles to the little station of Fenner, where we made a side trip twenty-five miles northward to the Providence Mountains. Soon after leaving Fenner we began to see a little vegetation and as we neared the mountains it became more common and signs of animal life were seen. A fortnight's stay at the Providence Mountains proved very interesting. This range is extremely rugged, and is composed of limestone and porphyry. It is well timbered with pinyon and juniper. Although the higher peaks exceed 7,000 feet in altitude they carry no yellow pine. On the plain at the base of the mountains is a fair growth of larrea and several species of cactuses. Among the pinyons was a good growth of a species of bunch grass, the only good pasturage we found for our horses on the whole trip. Water was very scarce, three springs and two wells comprising all the known waters of this high, well timbered range.

Returning to Fenner we travelled near the railroad to the Colorado River at Needles. We stopped a week in the river bottoms some twenty miles below Fort Mohave, where Dr. Cooper spent several months forty years ago. On leaving the Colorado we turned northeast, crossing a barren range of mountains by a very steep and rough road, and finding the next spring at Little Meadows on the eastern slope, altitude 2700. Thence we went to Kingman and Beale Spring in a basaltic mesa region. From there we made another side trip southeast into the Hualapai Mountains. All this region was suffering from a four years' drouth and the springs in the Hualapais were mostly dried up. We staid a fortnight at a spring where a sawmill had once been located, at about 6000 feet altitude. The highest peaks reach 8000 feet altitude or more. This granite range much resembles the south Californian mountains, as it is covered with thick low brush on the southern slopes and carries some pinyon at the base, and on the northern slopes above 5500 altitude a fair growth of yellow pine.

Returning to Kingman we struck eastward around the northern end of the Hualapai Mountains and down into the narrow valley of Big Sandy Creek, a tributary of Bill Williams River. The Big Sandy proved an interesting bird region, as a narrow tongue of the Lower Austral life zone reaches up it to about latitude 35°. Along the creek were groves of willow, cottonwood and mesquite, and

giant cactuses and other species of cactuses were scattered over the mesas.

To avoid the canyons on the lower part of the Bill Williams River the little-travelled road swings out on the desert southward and westward and comes to the Colorado River below the mouth of the former stream. From here we drove down the Colorado Valley about eighty miles, crossing the Colorado River at Ehrenberg. We spent the first eighteen days of August in the river bottoms, which carry a scattering growth of mesquite away from the river, and thickets of willow mixed with a smaller quantity of cottonwoods near the river banks. On the mesa east of the river were more or less giant cactuses, but we did not see a single plant of this species on the Californian side of the river. Birds were less plentiful in the Colorado Valley than I had expected and at this late date were mostly moulting. The heat was great, reaching 119° in the shade of August first, and collecting was not a comfortable task.

From the Colorado River we followed the old, long-abandoned stage route westward across the Chuckawalla Desert, a disagreeable sandy drive of eighty miles to the next house, and with but one water, at Chuckawalla Spring, midway. Then we crossed the Colorado Desert via Salton, and were well pleased to get into the coast mountains after spending nearly four months in the hot deserts with but two breathing spells in the mountains.

As collecting mammals was the principal object of the trip I made few bird skins, and omitted taking several species that since have proved desirable, hence in a few cases there is a little doubt as to the particular subspecies seen.

The migration being practically over when I entered the region the following list contains few species not resident therein and most of these are noted as migrants in the text.

Podilymbus podiceps. Pied-billed Grebe. Saw one in a lagoon below Ehrenberg.

Larus sp. At Ehrenberg I saw a small flock of medium-sized gulls passing down river near the opposite bank.

Phalacrocorax sp. Below Ehrenberg I saw several cormorants standing on a snag in a lagoon. Later others flew past at a distance.

Mareca americana. Baldpate. One shot from a small flock near Ehrenberg.

Querquedula discors. Blue-winged Teal. Shot two and saw others on a lagoon near Ehrenberg.

Querquedula cyanoptera. Cinnamon Teal. Saw a pair near Needles in June.

Plegadis guarauna. White-faced Glossy Ibis. Saw a small flock of migrants at Whitewater Ranch, San Gorgonio Pass, May 15.

Tantalus loculator. Wood Ibis. Saw two near Needles in June; an immature bird at Bill Williams River the last of July; and large flocks in the lagoons below Ehrenberg in August. They were not shy and were feeding in the shallower parts of the lagoons, wading about where the water was but a few inches deep.

Ardea herodias. Great Blue Heron. Seen several times along the shores of the Colorado River. Not common.

Ardea virescens anthonyi. Anthony Green Heron. I saw quite a number along the Colorado River and Big Sandy Creek, mostly young of the year.

Nycticorax nycticorax nævius. Black-crowned Night Heron. Seen and heard along the Colorado River in June and August.

Fulica americana. American Coot. Saw but few and only on lagoons near the Colorado River.

Himantopus mexicanus. Black-necked Stilt. One flock and some single birds seen at the lagoons near Ehrenberg.

Tringa minutilla? Saw a small flock of birds that appeared to be of this species flying over Big Sandy Creek in July.

Ereunetes occidentalis? Saw a big flock at a lagoon near Ehrenberg in August.

Heleodromas solitarius (cinnamomeus?) Saw several solitary sandpipers along the lagoons of the Colorado, but neglected to shoot any.

Numenius longirostris. Long-billed Curlew. Saw a small flock below Ehrenberg flying southward over the Colorado River.

Ægialitis vocifera. Killdeer. More or less common at all the streams passed.

Lophortyx gambeli. Gambel Partridge. First seen in the Morongo Pass. Found thereafter at all places where water and food were obtainable by them. These partridges seem to find it difficult to live where water is not accessible to them. They were rather common in the Hualapai Mountains up to 6500 feet altitude. Two broods of young were seen at the foot of the Providence Mountains the latter part of May and many more along the Colorado River near Needles on our arrival there early in June. No other species of partridge was seen on the trip east of the range of *L. californicus*.

Zenaidura macroura. Mourning Dove. Seen practically along the whole route traveled, though of course not plentiful in the deserts.

Melopelia leucoptera. White-winged Dove. The characteristic hoarse cooing of this dove was first heard at The Needles on the Californian side of the Colorado, but none were actually seen there. Seen at Little Meadows (alt. 2750). They were common on Big Sandy Creek, where they were feeding partly on the fruits of the giant cactus, and were known locally as the Sonora dove. Around Ehrenberg they were less common but I killed two at one shot there on the river bank. I did not happen to see any on the California side of the Colorado, though they of course occur on both sides of the river. I do not think this dove is found regularly west of the Colorado River bottom lands, though they probably straggle a short distance into the deserts.

Columbigallina passerina pallescens. Mexican Ground Dove. Shot one and saw others on Big Sandy Creek, also saw them on Bill Williams River and I shot another on the Californian side of the Colorado below Ehrenberg.

Cathartes aura. Turkey Vulture. Seen in many places, even over the deserts.

Accipiter cooperi. Cooper Hawk. Seen only in the timber about the lagoons below Ehrenberg.

Parabuteo unicinctus harrisi. Harris Hawk. Shot two near Ehrenberg, one in Arizona and the other in California and saw two others in California. They frequented large isolated cottonwoods standing near lagoons. They were not very shy.

Buteo borealis calurus. Western Red-tailed Hawk. Seen sparingly in most of the region traversed.

Buteo abbreviatus. Zone-tailed Hawk. The only one seen I shot on Big Sandy Creek. It was not wild, but perhaps this was accounted for by the fact that it was totally blind in one eye. This is the most northern record for this species known to me.

Buteo swainsoni. Swainson Hawk. Saw the dried remains of one at Beale Spring. No other recognized.

Falco mexicanus. Prairie Falcon. Saw one at Twenty-nine Palms and another on Providence Mountains.

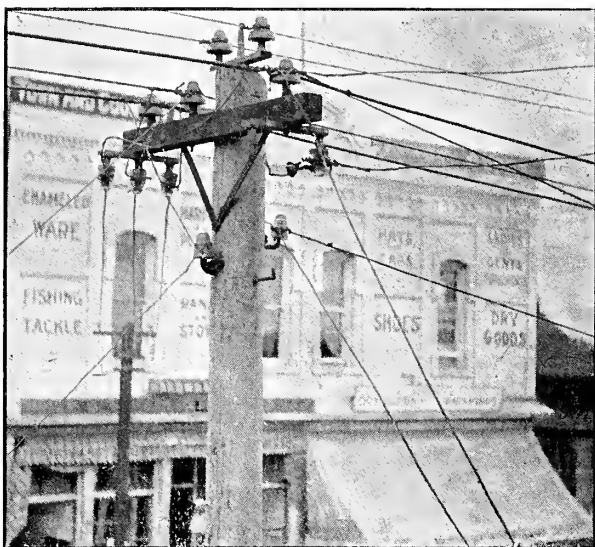
Falco sparverius deserticolus. Desert Sparrow Hawk. Unexpectedly rare. Saw a few on the Mohave Desert and one on Providence Mountains. The only one noted in Arizona was in the Colorado River bottoms above Ehrenberg.

Pandion haliaetus carolinensis. American Osprey. Saw the remains of one near Ehrenberg.

Bubo virginianus pacificus. Pacific Horned Owl. Mr. Brandege saw two in the Providence Mountains. I heard them in the Hualapai Mountains and near Ehrenberg.

(To be concluded.)

A Strange Nesting Site of *Calypte anna*.



MR. W. Lee Chambers of Santa Monica has sent us photographs showing a very strange nesting site of the Anna hummingbird. Mr. Chambers writes:

"I am enclosing a couple of photographs of an Anna hummingbird's nest built on a telegraph pole in the busiest street of Santa Monica. It is built over a nest of last year, and the illustrations show its situation. The

construction is as usual: i. e., spider-web chiefly, covered on the outside with bits of moss, and lined with an unusual amount of white feathers. In fact the nest was so filled with feathers that I could hardly take the eggs out for fear of crushing them. The incubation was well advanced; date March 31, 1903."



FROM FIELD AND STUDY

Hawaiian Birds in the Crater of Kilauea.—While spending some days at the Volcano House last October making a survey and sketch model of Hawaii's famous volcano, *Kilauea*, for the Bishop Museum, I was much interested to find that certain of the Hawaiian birds were utterly disregarding the power of nature and the presence of man and were to be found here in the very home of Madam Pele, the goddess of volcanoes. On the north side of the crater are a number of fault blocks of great size which descend step-like one after another, forming an easy descent to the floor of the crater. All of this locality is more or less thickly wooded chiefly with native Ohea. It was in this quiet retreat that the birds had taken up their abode. I noted during my stay the following species, all inside the crater proper. *Phaethon lepturus* was seen a number of times; on one occasion circling about over the pit of Halemaumau, where eight hundred feet below it was the burning lake of liquid lava. *Buteo solitarius* was seen on two occasions, and *Chasiempis sandvicensis*, *Acridotheres tristis* (introduced), *Vestiaria coccinea*, *Himatione sanguinea*, *Chlorodrepanis virens*, *Oreomystis mana*, and *Phœornis obscura* were all seen on more than one occasion.—WM. ALANSON BRYAN, *Bishop Museum, Honolulu, H. I.*

Curious Trait of Thick-billed Sparrow.—Many years ago I took a nest and four fresh eggs of the thick-billed sparrow (*Passerella iliaca megarhyncha*) from a bush of *Ceanothus cordulatus* and secreted it in a sparse growth of "mountain misery" (*Chamaebatia foliolosa*) forty or fifty feet from where I had found it. In an hour or two I returned for the nest which I found, but the eggs were gone. I happened to see one of them two or three feet from the nest in a line with its former site, and following that line I found them all. One was directly under the place from which I had taken it, one was nearly there, and the other was not more than twenty feet from it. I inferred that the parent birds had rolled them on the ground, which they could easily have done, as the course was free from any great obstacles, and was gradually descending.—LYMAN BELDING.

Dendroica auduboni a Raisin Eater.—I have found a new trait in the Audubon warbler which may be of interest to CONDOR readers, namely, *a taste for sweets*. There is a large amount of raisins on the trays stacked up in the tray shed of the packing house here and for several days they have been a great attraction to the birds, so much so that it has been necessary to keep a man constantly in attendance to shoot them and drive them away. The other morning I saw a flock of fully 200 birds—mostly Audubon warblers—around the shed and they seemed to go wild over the fruit, and as fast as they were driven from one side of the shed would fly round to the other. Every bird shot that I examined had the bill sticky for its whole length. The amount of damage done was considerable. Among the birds that had been killed I found one Arkansas kingbird, several bluebirds and house-finches, but the warblers were at the rate of about five to one of the other species. I do not know if this is a common trait of the Audubon warbler elsewhere, but it is certainly new to me.—C. S. SHARP, *Escondido, Cal.*

Concerning Spotted Eggs of the Lark Bunting.—I have had some inquiry lately for "eggs of the lark bunting which are marked" and I would state: that from my register I find I am responsible for 47 sets and in the lot there has been *but two sets* of spotted eggs. The marks are not many, nor very large, but sufficient to make a pretty effect. They are of a reddish brown and mostly about the larger end of the egg. Some eggs have a few spots scattered from end to end. There is also the "under markings" and a few wavy lines of color, "blackbird style." The spots *will not* smear while cleaning the egg, and at this late date they *cannot* be scrubbed off with warm water and soap. One of these sets I am keeping from the sunlight in my cabinet, and the other is safe in the case of J. H. Flanagan, Providence, R. I. I have had *many* eggs of the lark bunting and mountain bluebird, which could not be distinguished from each other.—FRED M. DILLE, *Longmont, Colo.*

The Wood Ibis Near San Bernardino.—One afternoon in the early summer of 1891, a friend and myself came upon a flock of eight wood ibises (*Tantalus loculator*) feeding in a damp field about midway between San Bernardino and Highland. They flew away at our approach and disappeared toward the northwest.

On June 5, 1902, Mr. Stanley Whitlock and I saw three *Tantalus loculator* flying about in this same locality. We shot one for identification. Thence for about a month they became very numerous here, as many as twenty-two being seen in a single flock. They fed mostly in the creek bottoms, and occasionally a flock would be seen circling high in the air for a half-hour at the time. With the coming of July they gradually disappeared. These are the only wood ibises I have ever seen here, although I have lived here for many years.—J. B. FRUDGE, *Highland, Cal.*

Note on *Loxioides bailleui* Oust. from Hawaii.—Through the courtesy of my friend, Professor Loye H. Miller, of Oahu College, this city, I have had the pleasure of examining a series of seven splendid skins of *Loxioides bailleui* Oust. which were made by him on a trip to the island of Hawaii. The seven specimens were all taken December 26, 1902, at an elevation ranging from seven to eight thousand feet, in the locality known as "Horner's Ranch" near Paauila in the district of Hamakua. In comparing the specimens with the three in the Bishop Museum, I find no material variation in either size or coloration; however, in referring the measurements given in the Key to the Hawaiian Birds, I find a slight discrepancy in the length of the bird there given (7.50) and that obtained by Mr. Miller in freshly killed specimens. I append a table giving the measurements taken from the ten birds before me.

Nos.	Sex	Locality	Date	Collector	Length	Wing	Tail	Tarsus	Cul. Depth	Remarks
									of Bill	
1	♀	Hamakua	Dec. 26, '02	L. H. Miller	6.85	3.65	2.30	.97	.48	.46
2	♂	"	"	"	7.00	3.65	2.60	.94	.48	.43
3	♂	"	"	"	7.00	3.70	2.60	.95	.47	.45
4	♀	"	"	"	6.90	3.50	2.55	.95	.47	.42
5	♂	"	"	"	6.90	3.60	2.50	.96	.48	.47
6	♂	"	"	"	6.90	3.60	2.55	.94	.49	.45
7	♂	"	"	"	6.90	3.55	2.50	.96	.47	.45
B. M. 25	—	Hilo	—	Mills	6.90?	3.55	2.48	.95	.49	.43 Mtd.
" 200	♂	Kona	—	Perkins	6.90?	3.55	2.45	.95	.48	.47 "
" 251	♂	—	—	"	6.90?	3.65	2.52	.95	.49	.45 "

Nos. 1, 4, 6, of Mr. Miller's collection show the darker bases to the feathers on the crown characteristic of the female. However No. 6 has been sexed by Mr. Miller as a male, a fact which would suggest that the young males pass through a stage resembling the adult females. The series as a whole are remarkably uniform in coloring. No. 5 being a fine old male was decidedly the richest gamboge yellow on the head and breast, while No. 4, a female, was slightly more buffy on the crissum than any of the other specimens examined, a fact probably indicating the maturity of the specimen.

Mr. Miller's observations of the habits of this species tally exactly with those of former observers who have all found it feeding on the Mamani bushes, rarely leaving them, and showing but little fear. He describes its note as a clear whistle. The peculiar odor characteristic of the *Drepanididae* was especially noticeable on the fresh skins.—WM. ALANSON BRYAN, *Bishop Museum, Honolulu, H. I.*

***Ardea virescens anthonyi*.**—On January 3, 1903, while nearing a creek in the vicinity of San Bernardino to get a drink, I startled a large bird from the trees overhead. After much care I approached near enough to see that it was an Anthony green heron (*Ardea virescens anthonyi*). As I had no gun I was unable to secure it. Is it not a rare thing to find this bird in Southern California at this time of the year?—J. B. FEUDGE, *Highland, Cal.*

The Alaska Pileolated Warbler in California.—In Part II of his "Birds of North and Middle America," Mr. Ridgway newly describes the race of *Wilsonia pusilla* from the West Coast. The three forms recognized by him are: (1) *Wilsonia pusilla pusilla* (Wilson) from the Atlantic province; (2) *Wilsonia pusilla pileolata* (Pallas) occupying the middle province including the whole of Alaska and British Columbia to the Pacific, together with the Rocky Mountain region; (3) *Wilsonia pusilla chryseola* Ridgway, the form summering in the Pacific province from southern California to western Washington.

A study of available material in the collections of Mr. F. S. Daggett and myself, amounting to some seventy-five skins in all, results in that Mr. Ridgway's conclusions are fully confirmed. The great majority of our Californian specimens are uniformly typical of *chryseola*, but we were much interested to find that *pileolata* is also represented. The five specimens secured by me May 14-16, 1897, on Santa Barbara Island and recorded as *Sylvania pusilla pileolata* (Rep. Bds. Sta. Barbara Ids., Aug. 1897, p. 8) are all referable to *pileolata* as now restricted. So are also in Mr. Daggett's series No. 667♂, Apr. 29, '97; No. 4796♀, May 1, '96; and No. 4761♀, Sept. 22, '96, all taken at Pasadena. These indicate that the Alaskan race passes in migration along the coast of California with probable regularity, though appearing in the spring long after *chryseola* has become settled for the summer.

W. p. pileolata is recognizable at a glance by its dark green upper parts and pale yellow face. Also its long (2.21 in. = 56 min.) pointed (8-7-6-9-5, etc.) wing is an evidence of extended migration. *W. p. chryseola* has the upper parts of a much yellower green, approaching a dark wax yellow, while the face and lower surface are strongly tinged with orange yellow, sometimes near-

ly cadmium yellow on the forehead. The wing is shorter (2.15 in. = 54.5 mm.) and rounded (7-6-8-9-5, etc.), indicating a more sedentary bird. Parallel cases are afforded by the yellow warblers, savanna sparrows, fox sparrows, and other birds breeding through many degrees of latitude along the Pacific Coast.—JOSEPH GRINNELL.

Sterna hirundo at San Francisco.—It is with great pleasure that I am enabled to add one more to our already long list of Pacific Coast birds. On January 19, 1903, my friend Mr. Ernest Werder while roaming over the hills at the Presidio, San Francisco, found what was to him a strange bird and wishing to know what it was forwarded it to me. I have identified it as the common tern, *Sterna hirundo*. This is so far as I am aware the first record from the coast. The bird when taken was alive, but in a very emaciated condition and died shortly after being found. It was probably hurled to the earth while in a weakened condition by the severe storms which occurred about that time.—C. LITTLEJOHN, *Redwood City, Cal.*

A Few Notes from Texas.—During the last few years I have had the pleasure of finding many curious nesting places of some of the smaller birds of this section of the state, a few of which I will here recall. In the spring of '97 while collecting in Caldwell county, I found a nest of the Baltimore oriole, placed about fifteen feet above the ground, tightly woven in the leaves of a mesquite and built entirely of horse-hair. While I was sitting under the tree resting a male Baird wren flew out of the nest and at once began pouring forth his notes of distress and probably wanted to know who was invading his domain. I had not the least idea of the wren having a nest in the old oriole's nest, but my inquisitiveness forced me to inspect, so I immediately ascended and to my great surprise I found it to contain a large well built nest of the Baird wren and five eggs. It is not of uncommon occurrence to find the nests of this wren in tin cans and old buckets and in several instances it has been found nesting in the pockets of old garments that had been placed in the barn and outhouses.

Mr. Harry J. Kofahl has taken the eggs of the scissor-tailed flycatcher (*Milvulus forficatus*) from the light towers in the city of Austin and I have also found this species nesting on telephone poles.

On the 20th of June 1901, a set of two eggs of the mourning dove (*Zenaidura macroura*) were taken from the huge nest of a caracara. The dove unquestionably had a comfortable home.

Mr. Edward Kasch of Caldwell county once found a nest of the Texan bob-white, which contained six eggs of a quail and three of the common chicken. The nest was deserted.

Another incident of curious nesting sites is that of a red-bellied woodpecker (*Melanerpes carolinus*) that had built its nest about eighteen inches above the ground, the bottom of the cavity being level with the ground.—A. E. SCHUTZE.

The First Occurrence of the Kingbird in Austin During the Breeding Season.—

On April 7, 1902, while walking along the outskirts of town, a strange bird flew up from the path and lit in a neighboring tree. I at once noted it down as a new arrival. I did not see this bird again until May 20, when it was in company with another of the same species. One was sitting on a telephone wire and the other was in a fork of a large live oak tree. When it flew away I saw that they had begun to construct a nest in the fork. Some string and a few sticks were evidence of same. Each day as I went by the tree (for it lay directly in my path to town), one of the birds was always there busily working. On June 1st I climbed up to the nest, which was at the extremity of a slender limb, and appeared to be complete. While I was near the nest both birds stayed in the vicinity and even fluttered around my head. While they were near me I had a good view of them and at once identified them as kingbirds. On June 8 I again visited the nest and it contained two eggs. Leaving these I returned on June 11 and still there were only the two eggs. Thinking that this was their complement I secured the nest, which was difficult to reach. It was built very firmly in the fork, and composed of twigs, string, cotton, bark, weeds and rags, lined with hair, cotton and feathers. The eggs were identically the same as a set which I obtained from Rhode Island with exception of the size which is slightly less.—H. KOFAHL, *Austin, Texas.*

Pigmy Owl in Town.—The capture of a pigmy owl (*Glaucidium gnoma*) in the streets of American Fork, Utah, a few days ago excited some interest but was not the first occasion of its kind. Two or three years ago I had one similarly caught (by a boy with his hands) and on dissection I found it literally gorged with English sparrows. I have never discovered a nest of these owls but the bird is not uncommon among us in winter and is attracted in town by the most natural thing in the world—its food.—H. C. JOHNSON, *American Fork, Utah.*

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NOTES

We announced in the last issue that THE CONDOR would not come out till after the A. O. U.-Cooper Club Meeting, but have reconsidered that rash decision. It is always dangerous for a periodical to delay its usual date of publication, even under the most praiseworthy pretexts. So we are here a day ahead.

Owing to the illness of Mr. Grinnell the business office has temporarily suspended operations. Correspondents should be patient, however, and thank their lucky stars for health during this remarkably beautiful spring.

More than one of our plans has gone wrong since the last issue and we have been obliged to omit the usual portrait from this number. We hope to resume the series in July.

During the summer months the editor will be in Washington, D. C. Correspondents will confer a favor if they direct all communications as follows: W. K. FISHER, CARE OF U. S. DEP'T OF AGRICULTURE, WASHINGTON, D. C. Do not send such letters to "THE CONDOR" or to the "Publishers of THE CONDOR." Unless further notice is given *business communications* should be sent as usual to Palo Alto, to Mr. Grinnell.

The A. O. U. Bird Bill of which mention was made in the March issue came to an untimely death in the hands of a Committee. From all that we can learn it was not actually introduced into the legislature, having been crowded out by the rush of "more important" measures.

The Michigan Ornithological Club has recently reorganized, and the first number of the *Bulletin* under the new management arrived on the coast the latter part of April. This issue is No. 1 of Vol. IV. The *Bulletin* is to appear quarterly under the editorship of Alexander W.

Blain, Jr., with J. Clair Wood and Adolphe B. Covert as associates. It is published "in the interests of ornithology in the Great Lake region" and the present number is certainly an attractive one. We wish the enterprise every success. [Bulletin of the Michigan Ornithological Club, A. W. Blain, Jr., Editor, 131 Elmwood Ave., Detroit Mich.; subscription fifty cents a year.]

The *Proceedings of the Nebraska Ornithologists' Union at its Third Annual Meeting* is a substantial volume of 108 pages, well printed and illustrated. The leading article is the President's Address—The Progenitors of Birds, by Erwin Hinckley Barbour, profusely illustrated with good zinc cuts. There are numerous other articles of a more local nature, including a valuable Record of Nebraska Ornithology, 1. Bibliography, by Robert H. Wolcott.

The National Committee of Audubon Societies has commenced the publication of a series of Educational Leaflets, each of which will treat of a single species. These will be illustrated by Mr. Louis Agassiz Fuertes, and will give not only an accurate description of the plumage of the bird, but also its distribution in North America, and the latest information regarding the economic status of the species. We have seen, so far, the Nighthawk and the Mourning Dove. Mr. Dutcher and Prof. Beal are responsible for the text.

Prof. F. E. L. Beal, of the U. S. Department of Agriculture, is in California studying the relation of birds to orchards.

Rev. S. H. Goodwin of Provo City, Utah, is compiling a list of the birds of Utah. He would appreciate any assistance from local observers.

We regret to announce the death of Mr. Geo. H. Ready, at Santa Cruz, California, March 20, 1903.

George H. Ready, a member of the Cooper Ornithological Club was born in Placerville, Placer Co., California, August 5, 1858. While still a boy he went to Santa Cruz, where he has since been a student of birds and their habits. Four years ago, from overwork and exposure, he contracted a cold from which he never recovered. He spent several years in Phoenix, Arizona, hoping the dry air of that region would restore his health. But he afterwards wisely concluded that the comforts of a home in Santa Cruz would be a greater solace and quite as likely a restorer. Although everything possible was done for him he never rallied.

He was an amateur ornithologist, and the birds of the region in and about Santa Cruz and Phoenix were his familiar friends, few knowing their haunts and habits as well as he. A cabinet of eggs which he had collected represents the work of many hours snatched from leisure, and has great intrinsic value.

WANTED—Every dealer and collector to send me his address that I may send out *sample* sheets of my *Standard Field Note* and *Data Blank Books*, endorsed by advanced collectors and dealers. Recommended by Ornithological Clubs. "All answered." Address,
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THE CONDOR

A Magazine of Western
Ornithology



Volume V

July-August, 1903

Number 4



W.K.F.

COOPER ORNITHOLOGICAL CLUB



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Entered January 16, 1903, at Palo Alto, Cal., as second-class matter.

IMPORTANT NOTICE

Mr. Joseph Grinnell has moved to PASADENA, CAL., where all communications of a business nature should be sent. The editorial office remains in PALO ALTO, where manuscripts and exchanges should be forwarded.



PHOTOGRAPHED BY H. T. BOHLMAN

NEST OF SHUFELDT JUNCO
(See page 95)

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume V

July-August, 1903

Number 4

Call Notes of the Bush-Tit

BY JOSEPH GRINNELL

(Read before the A. O. U—Cooper Club Convention, May 16, 1903)

DURING three-fourths of the year the California bush-tits forage about in flocks. These bands may consist of as many as thirty individuals, but generally there are from fifteen to twenty. Although we call them flocks, they are not such in the sense that blackbirds or linnets form flocks; for the bush-tits never bunch together and mount high in air to take a prolonged flight. But they form a loitering company, scattered among several scrub-oaks or brush-clumps. There may be a general onward movement, for if a person locates himself in the midst of the restless drove, in a few minutes they will have almost all gone off in some particular direction. A few stragglers sometimes forget themselves, and suddenly feeling lost, fly helter-skelter after the main company with excited calls. Evidently there are some, perhaps two or three adults, who take the initiative, and involuntarily direct the movements of the younger or more timid individuals which follow along after. During such slowly moving excursions, each individual is rapidly gleaning through the foliage, assuming all possible attitudes in its search for tiny insects among leaves and twigs. The attention of each is on himself as a usual thing, but each is continually uttering a faint but characteristic simple location-note, a note of all's-well which indicates safety and also the whereabouts of the main body to stragglers, and each individual to any other.

At times, especially towards evening, the flocks become more restless and move along from bush to bush and tree to tree much more rapidly than when feeding, the birds straggling hurriedly after each other in irregular succession. During these hurried cross-country excursions, the simple location-notes are pronounced louder and are interlarded at frequent intervals with a shrill quavering note. The faster the band travels, the louder and more oft-repeated becomes these all-import-

ant location-notes; for the greater becomes the danger of individuals becoming separated from the main flock. Bush-tits are usually hidden from each other in dense foliage. They have no directive color-marks; therefore, being gregarious birds, the great value of their location-notes becomes apparent.

Should a bush-tit lag so far behind as to be beyond hearing of his fellows, he may suddenly come to a realization of his loneliness; he at once becomes greatly perturbed, flitting to the tallest available perch, and uttering the last mentioned note reinforced into a regular cry for his companions. This is usually heard by the distant band and several similar answering cries inform the laggard of the direction the flock has taken. Off he goes in zigzag precipitation and joins his fellows with evident relief. We may judge from the strongly gregarious habit of the bush-tits that each individual gains from the community life. Such mites of birds surely have enemies, and a clue as to the identity of one enemy, at least, was brought to my attention last summer at Pacific Grove. There I took from the nest a young sharp-shinned hawk, the stomach of which contained an adult bush-tit, in pieces of course. Those of us who have closely observed the bush-tits to any extent will certainly recall the following experience at one time or another. I myself have witnessed it scores of times. A flock of bush-tits will be foraging as usual, with the ordinary uncertain medley of location-notes, when suddenly one or two birds utter several of the sharp alarm notes and then begin a shrill quavering piping. This is taken up by the whole flock, until there is a continuous monotonous chorus. At the same time every member of the scattered company strikes a stationary attitude in just the position it was when the alarm was first sounded, and this attitude is maintained until the danger is past. In nearly every case the danger is in the shape of a hawk, more especially of the smaller species such as the sharp-shinned or sparrow hawks. No matter how close the hawk approaches, the shrill chorus continues and even intensifies until the enemy has passed. The remarkable thing about this united cry, is that it is absolutely impossible to locate any single one of the birds by it. The chorus forms an indefinitely confusing, all-pervading sound, which I know from personal experience to be most elusive. It may be compared in this respect to the sound of the cicada. This confusion-chorus, as I think it might be appropriately called, is a sure sign of the appearance of a small hawk even a long way off. Often long before I could myself locate the hawk, a neighboring band of bush-tits would have set up their cry, thus announcing its approach. It seems reasonable to infer that this monotonous chorus of uncertain direction, at the same time as it sounds a general alarm, serves to conceal the individual birds, all of which at the same time maintain a statuesque, motionless attitude. Their colors also harmonize closely with the shadows of the foliage. The whole evidently forms a composite protective device, which must be, as a rule, effectual. Scarcely any attention is ever paid by the bush-tits to large hawks, such as buteos, or to other large birds such as turkey vultures, pigeons, or jays. The bush-tits seem to be able to easily identify their real enemies at surprisingly long range.

It is also of interest to note that mammals, large or small, are seldom stigmatized by the confusion-chorus. If a person, or dog, or similar animal appears among a flock of bush-tits, a bird here and there may utter a sharp repetition of the simple location-note very much augmented in volume. But after a moment's quiet, during which the birds intently survey the cause of the alarm, the flock goes on with its busy foraging, and usual miscellany of location-notes. Very often no attention at all is paid to a person, the birds flitting about heedlessly within a few feet of him.

During the short breeding season from March through May, when the flocks are disbanded and the birds are in pairs, the same notes are used between the mates. These express about the same meaning as during the rest of the year, but of course, often have to do with the nest and young. But there is no vestige of a distinctive spring-song, as I have seen ascribed to the bush-tit.

To summarize: I have attempted to describe more minutely the bush-tit's notes as they sound to me. Of course I realize how hard it is to describe bird-voices. And also, as I have often had opportunity to note, hardly any two persons receive the same impression of a single bird's song. No two people seem to hear exactly alike.

Each of the five notes defined beyond is perfectly distinct, and each at once signifies to me some particular and easily recognizable state of mind of the birds in question.

1. Faint one-syllabled simple notes, usually uttered in irregular succession while the birds are undisturbed, and intently gathering food or nest material. (*Tsit, tsit; tsit; tsit.*)

2. From one to five of the simple notes uttered somewhat more loudly and followed by a rather shrill quavering note of longer duration. This is uttered among members of a flock or between a pair of birds when not intently feeding, but when moving more or less rapidly with restless activity from tree to tree in some definite direction. (*Tsit, tsit, tsit, sre-e-e-e; tsit, sre-e-e-e.*)

3. The same as the last, that is, the one to five simple notes followed by a quavering trill, but pronounced with much more volume and emphasis, and, according to circumstances, more hurriedly. This is uttered by lone individuals suddenly finding themselves separated from one another or from the main flock. (*Tsit', Tsit', sre-e-e-e'.*)

4. Of the same quality as the simple one-syllabled note first described, but greatly intensified, and pronounced abruptly, several in rapid succession. This is uttered by parent birds when a nest is disturbed, and by a few certain individuals in a flock, upon the first appearance of any enemy. In the case of mammals, such as a cat, hog, or squirrel, or a person, this simple alarm-note is not followed by the confusion chorus to be next described. (*Tsit''; tsit', tsit'; tsit''.*)

5. A shrill quavering trill, of the same quality as described under No. 2 above, but without the preceding simple notes, and chanted continuously in a monotone by all members of a flock for as long as two minutes. This peculiar chorus is uttered only during the presence of such an avian enemy as the sharp-shinned, Cooper, sparrow, or pigeon hawk, and owls, if these latter happen to be startled into a day-time flight, as occasionally happens. (*Sre-e-e-e-e, etc.*)

The White-necked Raven

BY VERNON BAILEY

MY first acquaintance with the white-necked raven began late in November of 1889 at Wilcox, Arizona, where a flock of about fifty of the birds were feeding around the stock yards and cawing hoarsely from tops of telegraph poles with apparently no notion of migrating to warmer latitudes. At El

Paso, Texas, where they commonly remain throughout the winter, I found them up to the last of December one of the most abundant and conspicuous of winter birds, associating in noisy crow-like flocks around the outskirts of town, neighboring stock yards and ranches. In such places they show a bold intelligence not found in the wary crow, and are always ready to co-operate with man in any such mutual benefit scheme as the disposal of garbage, the removal of superfluous flesh and grease from hides hung out to dry, or the saving of grain that has been scattered along the roads. On a cold morning I have seen a dozen of them in the pig pen, sharing the breakfast of the pigs, pushing and crowding for the scattered corn in a very frank and business-like way. Along the suburban streets of El Paso they would walk aside to let me pass with my gun, eyeing me shrewdly as much as to say, "It's against the law to shoot inside the city limits," but out on the mesa they would keep well beyond shot gun range and sound an alarm at the first sight of a distant hunter.



CORVUS CRYPTOLEUCUS ON YUCCA RADIOSA AT
VALENTINE, TEXAS

In spring they scatter out over the desert valleys and become silent and shy while preoccupied with home duties, and then any old bunch of sticks in the top of a tall yucca may contain a set of their brown spotted eggs. From below, the nests usually have an ancient tumble-down appearance caused by straggling remains of previous nests, but from above they are found to be well built up each year when occupied.

In the accompanying cut from a photograph taken near Marathon, Texas, May 12, 1901, the nest shown was about twelve feet from the ground. By getting on top of the 'hack' I could look into its deep cup-shaped cavity where the five eggs rested snugly on a soft lining of yucca fiber, deer hair and rabbit fur, and was surprised to find the inside so well built in contrast to its rough exterior. The old bird had slipped from the nest as we approached and

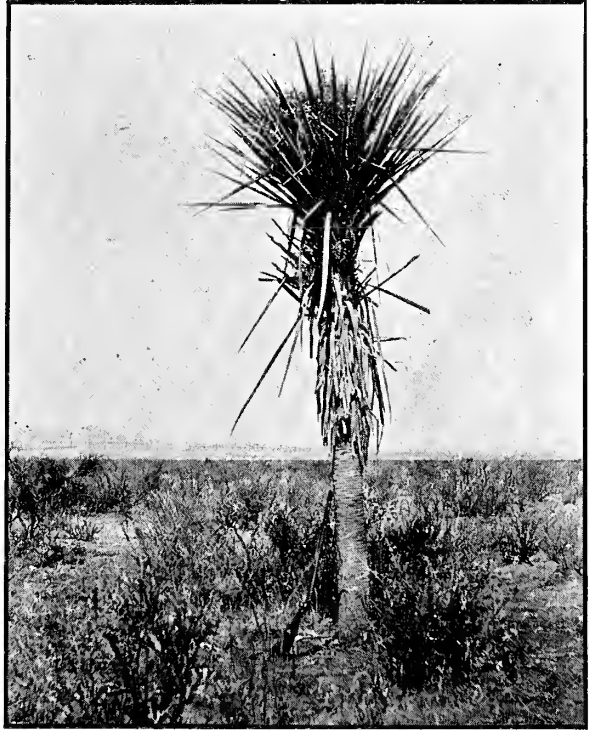
quietly disappeared but was soon seen again with her mate watching us from distant yucca tops. Before we were twenty rods from the nest she was back in it again carefully inspecting damages.

Later in the season when the young were out they were all as noisy as crows, whether lined up on a corral fence, gathered in a family circle around the remains of a slaughtered beef, or chasing grasshoppers and lizards in the open valley. The abundant and juicy fruit of the cactus, *Opuntia*, *Cereus*, and *Mammalaria*, supplies part and probably a large part of their food during July, August, and September, enabling the ravens as well as some of the mammals and even men to make long journeys into waterless valleys with comparative comfort.

Out in one of the driest, hottest valleys of the Great Bend country of western Texas a pair of big Mexican ravens came beating over the valley ahead of our outfit one day, when they were suddenly attacked by two pair of the smaller,

quicker, white-necked ravens. The attack was vigorous, not to say vicious, with quick repeated blows and pecks till the feathers flew. From start to finish the big birds sought only to escape, but this seemed impossible. They pounded the air in vain effort to out-fly their tormentors, dove to the ground but were forced to take wing again, circled and beat and tacked to no purpose, and finally began mounting steadily in big circles, taking their punishment as they went, the smaller birds keeping above and beating down on them in succession till all were specks in the sky, and finally lost to view. Such a drubbing I never saw a smaller bird inflict on a larger, before or since, and it was probably well deserved. The nests of the white-necked ravens are unprotected from above and eggs are said to be a delicacy to any raven.

Be that as it may, the breeding grounds of the two species rarely conflict, *sinuatus* keeping to the tall cliffs and mountains and apparently for good reasons rarely entering the nesting valley of *cryptoleucus*.



FROM THE BIOLOGICAL SURVEY

NEST OF *CORVUS CRYPTOLEUCUS* IN *YUCCA MACROCARPA*;
MARATHON, TEXAS

Notes on the Bird Conditions of the Fresno District

BY J. M. MILLER

A LARGE portion of the San Joaquin Valley has undergone so rapid a change during the past twenty years that the conditions of bird life there have been practically revolutionized. The topographical features which at one time favored or discouraged bird life have disappeared and new features present the conditions for a different and more varied fauna. This change has been due to artificial irrigation. Large areas where formerly only the bare plain stretched away without a tree in sight for miles are now covered with orchards, vineyards and thriving alfalfa fields and dotted with homes and shade trees. This rapid transition presents a field for local study which has never been thoroughly covered.

The early prairie-like conditions of the plain before the advent of the big irrigation systems favored only a decidedly limited fauna both in species and num-

bers. Along the banks of streams, such as the San Joaquin and Kings River and a few smaller creeks where moisture was plentiful and trees and plants abundant, birds thrived and the avifauna was about the same as that of the lower mountain districts. But in many places no such stream existed within a radius of less than ten or fifteen miles. Scarcely a tree or living shrub existed any nearer; and birds or any inhabitants would have to be such as could adapt themselves to such barren conditions.

During the summer months the long absence of rain dried the alluvia so that the country was almost desolate in appearance. The level of the plain was broken occasionally by winding, shallow depressions, called by the settlers "sand hollows." These by some are said to be the remains of old water courses. The influence of irrigation has brought the underground water so near the surface that the "sand hollows" have been transformed into extensive ponds which are the reproductions in miniature of the old Tulare Lake. The same cause, irrigation, from which Tulare lake nearly went dry a few years ago, has filled these dry hollows with water and they are now teeming with all the varied forms of plant and animal life once found along its shores.

The burrowing owl, one of the most prevalent species formerly, is now becoming extinct wherever the country is thoroughly cultivated. These owls live and nest in the discarded burrows of squirrels, and the plentiful irrigation, which, in time, drowns out the squirrels, is far more fatal to the owls. The nightly "cuckoo" of these birds is seldom heard wherever the country is intensively cultivated. The meadowlarks also are far from being as plentiful as they once were, for the same causes which are exterminating the owls make nesting a very difficult and uncertain matter for the ground-nesting larks.

It may be said that the advent of orchards and vineyards and the multiplication of other conditions upon the plains favoring the lives of many other birds, has caused the bird population along the streams and in the foothills to overflow into this new territory. The population in some districts has increased extensively and a few species have increased to such an extent as to become a positive nuisance to the fruit growers at certain seasons of the year.

The migrations through the valley are of separate interest. During the winter months birds of the higher mountain districts are often seen upon the plains. However, it can hardly be said that the new conditions influence the migration of birds to any degree. An abundance of spring migrants arrive every year, but in all probability they are the same species which formerly came every spring to the more favorable localities of the valley.

A Morning With the Birds of Juan Vinas, Costa Rica

BY MERRITT CARY

WHILE in Costa Rica last year with Prof. Lawrence Bruner and M. A. Carriker, Jr., of the University of Nebraska, I secured a number of bird notes which I thought might be of interest to CONDOR readers.

For three weeks we had been collecting at the Estancia Jimenez, far up on the southeast slope of the Volcan Irazu, and in Monte Redondo, a mountainous

region lying to the southwest of San Jose. On March 11, acting upon the advice of both Dr Jose Zeledon and Mr. Cecil F. Underwood of San Jose, we went down to Juan Vinas, some thirty-five miles east on the Ferrocarril de Costa Rica, where we were assured of good ornithological as well as entomological collecting. Fortunately Mr. Underwood accompanied us.

The altitude of Juan Vinas is about 3,000 feet, and the scenery picturesque. Situated on the border of a large savanna, well up the mountain slope to the north of the Rio Raventizon, the stream is seen a thousand feet below as a winding silver thread, bordered on either side with jungles of a rich green.

The dawn was yet scarcely breaking the morning after our arrival when we were awakened by the sweet notes of meadowlarks, which came floating softly to our ears from the savanna. We could more readily imagine ourselves home again, on the northern prairie in the early springtime, than in this far-away southern clime.

Soon other birds were heard—songs strange and unfamiliar to our northern ears. Within a short fifteen minutes the jungle was filled with an endless variety of bird notes. There was not the slow, gradual swelling of the morning chorus as in the north; but after the first notes of the earliest birds there was a sudden outburst of melody.

While disposing of our morning "coffee" the day's trips were planned, and I decided to accompany Mr. Underwood to the savanna and adjacent wooded slopes.

In some bushes near the house were a number of Passerini tanagers (*Ramphocelus passerinii*) which reminded us, in their jerky flight and movements, of the orchard oriole. As the birds moved about, their red rumps flashed brilliantly in the morning sunlight, and contrasted strongly with their black bodies and the dark green foliage. Several small finches with yellow face-masks were feeding in the short grass beneath the bushes and Mr. Underwood shot a pair, which proved to be Mexican grassquits (*Tiaris olivacea pusilla*). Later I often saw the grassquits feeding in the tall grass of the savanna, and once saw several sitting on the telegraph wire, occasionally uttering a few lively notes.

As we passed on toward the savanna bird-life became more varied. A beautiful wren-like song attracted us to some low bushes in the edge of the rank marsh grass. The singer, a small buff-breasted wren, was secured and found to be *Troglodytes intermedius*. Several others of the same species were soon afterwards located by their notes, but were extremely shy, and kept well concealed in the matted cover. When at intervals one did come above the level of the marsh it perched on an exposed twig for a few moments and gave forth its sweet song, differing from that of the *acdon* chiefly in slower measure.

While beating the grass for the wrens, Underwood secured a bright male Baird yellow-throat (*Geothlypis semiflava bairdi*), and several times we caught glimpses of a small brown rail^a as it sneaked silently but quickly into denser cover. Numbers of large, yellow-bellied flycatchers (*Myiozetetes* sp.) were noisily mating in the larger tree clumps, and occasionally a very small flycatcher, *Todirostrum cinereum*, was noticed on a low, exposed climb. When seen thus—alternately darting after a passing insect, and again remaining stationary as it uttered a sharp little note accompanied by an energetic jerk of the tail, the bright yellow underparts made it a striking object indeed.

Another flycatcher noted here was *Myiarchus lawrencei*, a bird of somewhat

^a Probably *Porzana cinericeps*.

solitary habits, which frequented the tops of small trees and at intervals uttered a melancholy, quavering note.

Having now become acquainted with some of the birds in and near the savanna we turned at right angles and followed a narrow trail through the jungle leading toward the high, wooded slopes on the north. Noisy ring tanagers followed us for some distance, seemingly much disturbed at our invasion of their domain, but kept well concealed in the dense undergrowth; while several times the peculiar *ooph-ooph*, *ooph-ooph* of a mot-mot led us on a vain chase through a jungle made penetrable only by the liberal use of our machetes.

In one of the densely shaded nooks along the trail I saw a large spider's web agitated by what at first was to me an unseen force, in the semi-darkness. Soon,



TREE SHOWING NESTS OF ZARHYNCHUS WAGLERI

however, my ears caught a faint humming sound, and I saw a small body faintly outlined just above the web, every few seconds darting towards it. At the first glance it appeared not unlike a large hawk-moth belonging to the *Sphingidæ*, so common about flowers in the tropics; but a careful approach revealed a humming-bird with a rufous rump. Suddenly it vanished, and upon examining the web I found that many of the silken filaments had been torn apart and carried away, presumably for nest material. Again I heard the humming, and saw the little wood's-sprite in the air a few feet from my head, the wings moving so rapidly as to present only an indistinct blur in the gloom. I 'froze' (apologies to Thompson-Seton), and thus bird and man regarded each other for some minutes, until a loud "hallo-o" from my companion broke the spell, and caused me to join him farther up the now ascending trail.

Meanwhile several birds had fallen to Underwood's gun, including two woodpeckers, *Melanerpes hoffmani* and *Chloronerpes yucatanensis*, a peculiar cuckoo-like bird, *Piaya cayana thermophila*, having a long graduated tail, and a large Costa Rica woodhewer (*Xiphocolaptes emigrans costaricensis*). We had now emerged from the jungle into an open, park-like *portrero*, or pasture, where the trees were much larger, and grew in scattered clumps. Roots grew out from the trunks at a good height and hung to the ground like immense cables, while the upper branches supported an endless variety of orchids, bromelias, air plants, mosses and lichens.

A small tree having sweet-scented, white flowers was resorted to by humming birds in large numbers, Reiffer hummingbirds being the most abundant. A large species with a white rump was not secured. One male specimen of the Helena coquette (*Lophornis helenæ*), an exquisite little gem, was taken high up in a tree at the long, tubular, pink flowers of a climbing vine. The coquette is a very small object when feeding in this manner, and as it does not hum loudly in comparison with other species often escapes detection.

Some guava trees next investigated yielded specimens of Wilson black-cap and chestnut-sided warblers, and summer tanagers, all in poor plumage. A squirrel (*Sciurus aestuans hoffmani*), busily breakfasting on the guava fruit, was also taken, and a handsome fellow he was, with his long, silvery tail and fiery underparts. By this time our presence had been noted by a troop of white-tailed brown jays (*Psilorhinus mexicanus*), in some trees on the farther edge of the *portrero*, and they flew away with a great clatter. Many of the small birds appear to rely upon *Psilorhinus* as a sentinel, for we immediately noticed a great depletion in their numbers. A peculiar croaking or rasping note drew our attention to a pair of cotingas (*Tityra semifasciata personata*), moving about among the dead limbs of a tall tree, and both birds were secured by a lucky shot. The male was a delicate shade of plumbeous white, with darker wings, and we found great difficulty in keeping the fine plumage of both birds clean on account of the flow of blood from the wounds.

A larger tree in the center of the *portrero* was occupied by a colony of Wagler oropendolas (*Zarhynchus wagleri*)—commonly called weaver birds in Costa Rica. As many as fifty of their beautiful, pendant nests, each one three or four feet in length, hung from the terminal foliage of the upper branches; the various tree mosses of which they were constructed giving to them a greenish gray color. As we approached, twenty or thirty of the birds flew swiftly away with rapid wing-strokes, but a number remained and peered down at us through the foliage, chattering noisily all the while. A few went into the nests through the entrance hole near the top of the structure, while still others merely poked their heads out.

Very young birds were found a few days later in the four nests hanging from the first branch, and seen near the main trunk in the lower portion of the plate.^a

Great difficulty was experienced in securing these nests for examination, Mr. Carriker being obliged to climb the smooth, slender tree to a height of some forty feet before reaching the first branch. He then cut off at the base the slender limb bearing the nests, and carefully lowered them to the ground. After examining the young birds the nests were fastened to the lowest branch of the tree in the hope that the parent birds might find and care for the young ones. While in the tree Mr. Carriker also secured several empty nests which were preserved as specimens.

Among others the following North American birds were noted by Mr. Underwood and myself in the *portrero*: swallow-tailed kite, sparrow hawk, black vulture, mourning dove and scissor-tailed flycatcher.

a. Taken near La Gloria, five miles east of Juan Vinas. There are over thirty nests in the colony.

The bright tropical sun was now high in the heavens, and most of the birds had sought shady retreats to pass the stifling heat of midday in silence. We heard only the harsh notes of chachalacas, and the soft cooing of wood pigeons on the hillside, as we started on our return. Space is lacking to mention in detail the many incidents of our walk back to Juan Vinas, or the wealth of tropical verdure and insect life on which our eyes feasted.

Great, superb Morpho butterflies, with wings of iridescent blue, often came flapping by in the narrow trail, only to immediately disappear in the jungle. When followed, tantalizing flashes of blue would lead me far back into densest thickets, where my phantom would disappear completely, and unless I chanced to see the dark outline, and large owl-like eye spots of the under wings against the lichen-covered tree trunk to which the insect clung, it was rare indeed that I gathered one into the folds of my net.

In the darkest shades, where the rays of sunlight seldom penetrated the leafy mantle overhead, hundreds of Heliconians—butterflies with transparent wings, varied with shades of brown, red, black, white and blue—danced about in the soft light presenting a most mystifying appearance when seen for the first time. Here, also, two large Caligo butterflies were met with, even larger than the Morpho; the upper wings, instead of bright blue, a dark brown or plumbeous color—modified to harmonize with the perpetual shades of their environment.

But I have wandered far from my subject and taken up too much valuable space. Suffice it to say that for two weeks each day was a repetition of the first days of unalloyed pleasure.

Among our pleasant memories of Juan Vinas, and the one which will without doubt be the most lasting, was a midnight serenade accorded us by the two *Gatos* (cats), wandering Indian musicians of the Tuecirici tribe. Neither of the Indians had ever seen a musical note, yet they played the guitar with a remarkable depth of tone, and produced the most ravishing strains of music—strains which could have their origin only in the soul of one in complete harmony with Nature's music.

Nesting Habits of the Shufeldt Junco

BY HERMAN T. BOHLMAN

A SHORT description of the nesting habits of two Shufeldt juncos (*Junco oreganus shufeldti*) which came under my observation in the spring of 1901, may be of interest to fellow students of bird-lore.

I have found the junco in the vicinity of Portland to be very partial in the selection of a nesting site, to the cuts or embankments which exist along the railroad, electric lines and country roads which wind through the hills south of town. It has been my habit, when the first of May comes around each year, and later as well, to make short expeditions along these lines, and 'switch the cuts' as we termed it. On arriving at the field of operation a light, green sapling, twelve to fifteen feet long was cut, and as I nearly always have a companion in the field, we would walk up the track, diligently applying our switches to the embankments, until we were rewarded by the flushing of a junco from its nest, while the rush and roar of the passing train never disturbed the occupant.

On May 14, 1901, two nests were discovered in this way not 200 yards apart, that were peculiar in the marked difference of their lining. In other respects the

nests were identical. Both were constructed of an outer layer of coarse grasses, then a thick layer of finer grasses, and a lining of cow hair. The inner cavity measures two and one-fourth inches across and one and one-fourth inches deep, while the outer measurements are two, and two and one-half inches in depth respectively. The contour is elliptical, in each case being four by five inches. Both nests were placed within a foot of the upper edge of a steep embankment in a shallow cavity, and the nest wall where it rested against the earth in the rear, was made of double thickness, or fully as thick as the bottom, being one and three-quarters inches in thickness, while the front and side walls were one inch or less, this doubtless being a provision to keep out the dampness resulting from contact with the earth.

The lining of these two nests is an interesting matter for speculation, as the one bird chose only pure white cow's hair without a dark one to mar its beauty,



PHOTO BY H. T. BOHLMAN

NEST OF SHUFELOT JUNCO

while its neighbor chose the same kind of hair, but of the most intense jet black, and as the two nests are before me, the contrast is very marked, but does not show to good advantage in the accompanying illustrations.

The interesting point is, did each of the birds possess an eye for color, and an individual taste and preference for a certain color, or was it merely a matter of circumstance which found a quantity of white or black hair convenient to each nesting site?

The eggs in each case were four in number, the usual complement. Those in the light nest were fresh, while the other set was advanced in incubation. The set in the black-lined nest has a ground color decidedly bluish, with distinct chocolate markings, mainly at the larger end, and are strong and decided in their spotting, while those in the white lined nest have a very pale pinkish ground color, profusely marked with reddish, and deeper pale lavender shell markings which give them a very delicate appearance, in perfect harmony with the color of the nest lining.

Cassin Auklet, *Ptychoramphus aleuticus*

BY HOWARD ROBERTSON

ON Thursday afternoon, June 8, 1899, after the only pleasant day's sailing on a two week's cruising trip, we arrived at Santa Barbara Island, to extend our ornithological investigation and add a few more specimens of birds and eggs to our collections. We had had several day's collecting on the Anacapa Island, resulting only in the taking of numerous sets of the western gull and a few birds. We had hoped to find the Cassin auklet breeding here, but our observation only extended in any degree of completeness to the northern island of this group; and not finding the auklet burrows there, and being concerned in saving our necks, had declined to scale the sides of the middle island. We knew from a previous record published by Mr. Grinnell that the auklet bred in numbers on Santa Barbara Island, and our captain promising to land us in a place of easy access, we lost no time in covering the distance between.

We reached Santa Barbara about 2:30 P. M., and anchoring in a large cove, immediately loaded our skiff and rowed to the shore. The sides of the island around the cove drop very abruptly to the water-line, while beyond, to the northeast, it slopes gradually down to the water's edge. We had hoped to land at one of these low places, but our captain much preferred to land us on a large rock inside the cove; and there he accordingly dumped us, and after pulling the skiff up on the rock, we scrambled, with the best of our ability, and by the aid of an old rusty chain, to the top of the island. We threaded our way among the gulls' nests and, after examining a few, proceeded to the southern end, where the higher land slopes gradually towards the cove. Here we found a number of auklet burrows and at once went to work. There is no particular rule in auklet land that we could find for the birds to follow in their home building. Each bird seems to follow its own idea (and that is often crooked) in its method of digging, while his neighbor perhaps, in a spirit of conceit, in trying to improve, makes matters (for the collector) ten times worse. We examined many burrows, some of which were easily followed to the nest, and others, on account of the many turns, had to be given up entirely. They ranged in depth from two feet to six or seven feet, some being tunneled just beneath the crust of the ground, while others went straight in and, on account of the dust and accumulating dirt, were very hard to follow. There was one burrow that was something of a curiosity. It was dug in the form of a spiral, the nest being placed, after two complete turns, almost directly underneath the entrance. Near the entrance of many of the burrows there were a number of old sticks and feathers, probably the remains of a last year's nest. I think in nearly all the instances where this occurred the burrows were occupied. The nest was invariably placed at the end of the burrow, though in several instances the burrow extended beyond a short distance, perhaps six or eight inches, and was composed of a few sticks and a few loose feathers, placed indiscriminately on the damp sand. In placing the hand in an uncovered burrow over the unoccupied nest, a certain degree of warmth could be felt, caused without a doubt, by the heat from the body of the incubating bird and retained by the damp sand.

The egg, when fresh, is of a creamy white color and they vary greatly in size, as the examples here will show. After incubation has commenced the shell becomes darker, more toward a light bluish color and is very often discolored. One of the parent birds was present in each nest that contained an egg and care had to

be taken in its removal, because auklets have very sharp toes! When once out from its dark burrow and brought into the bright light, the bird had some trouble in getting its bearings; it would flutter about hopelessly a few moments and then, suddenly righting itself, dart quickly over the cliff toward the ocean. I watched several during a performance of this kind and found I could follow them with my eye until they struck the water, when the color of the bird and that of the floating kelp blended so nicely, that, at a distance, one could not be distinguished from the other.

In many of the nests there were young birds ranging in age from those newly hatched to ones nearly full grown, having only a little down clinging to the feathers about the neck. The little fellows were of more interest than the others; they looked for all the world like little black chickens, downy and soft, but too dainty to handle. When brought into the light they would sit blinking at you with the wise expression of the proverbial owl.

We examined in all a great number of nests and found very few empty ones; in those containing young birds, the parent bird was always absent, as there would be hardly room for the old bird and a young one half grown. Our observation extended only to this one colony. I have no doubt that the birds nested elsewhere on the island; but our time was limited to part of one afternoon and the next morning, so we could not do as much exploring as we wished. We finished off nicely, and having plenty of specimens, were anxious to set sail for Santa Monica, where we could get a square meal and a good wash. Our captain, while an expert oarsman, was a headstrong sailor, and no doubt questioned the old adage that "a miss is as good as a mile." His curiosity respecting the truth of this often carried us into some ticklish places, and we were heartily glad to scramble up on the wharf at Santa Monica and feel something solid beneath our feet again.

Notes from Santa Barbara, California

BY JOSEPH MAILLIARD

WHILE in Santa Barbara, recuperating from illness, from the middle of April until the latter part of July of last year, I utilized my time in doing what little my health would allow in the way of collecting birds and notes appertaining to them. My efforts being greatly restricted by circumstances the results were not by any means as great as could be desired, yet it was my intention to publish a list of the birds not noted in Jeffries' article, *Auk*, V. April, 1888. On second thought, however, the probability of being able to do more and better work in this vicinity at future dates leads me to postpone doing so until my notes are more voluminous. Later on, with the assistance of Mr. A. P. Reddington of Santa Barbara, I hope to be able to publish an annotated list that will be of greater interest and value.

Birds seemed to me to be very scarce that spring, and this idea was confirmed by residents interested in such matters. My observations were necessarily confined mostly to the outskirts of the town, and in this territory the apparently abnormal destruction of birds' nests was most noticeable. Though not making a specialty of nests a good many were noted. Not being allowed to climb trees, those above reach could not be observed, but of the many recorded for the purpose of noting

duration of incubation and stay of young in nest all were destroyed by one agency or another. Most of these nests were of California towhee, house finch, Arkansas goldfinch, hummingbirds, etc., but as sure as one was recorded in my note-book so sure was it to be destroyed. Most of the agencies of destruction could only be surmised, such as jays, cats, snakes, etc., but several nests were blown away by the strong north winds that sweep through here in the spring from time to time. Some nests were deserted soon after construction, but most of them were robbed, or destroyed, at periods varying from that of fresh laid eggs to young within three days of leaving. In the cases where young were destroyed it is more than probable the numerous and voracious colonies of ants in this neighborhood may have been a factor, as Mr. Reddington tells me that these insects give him a great deal of trouble among his pet bantams while the young are still small. This destruction or desertion of nests may have appeared larger in this than in other places on my records on account of the proximity to the town causing the presence of numerous cats to kill, and people to frighten away the birds, but the conditions are most certainly discouraging to the observer, and more so to the birds themselves. In the territory worked over the small boy did not appear to cut much figure, as he was seldom met with.

Another matter noted was the extremely early moulting of many of the birds of this locality. There may be observations on this subject extant, upon southern birds, which have escaped my attention or memory, but it seemed remarkable that so many birds should be in poor feather as early as April 15th, just the date at which the best plumage would naturally be expected. During my visit to Santa Cruz Island in April and May, 1898, these conditions did not exist in that locality, and the birds there were in fine breeding plumage, with the exception of the horned larks which are generally in poor feather very early, and this in spite of an abnormally dry season when all the grain died at the height of six inches. Yet here in Santa Barbara, as early as May 15 while still nesting such birds as jays, finches, wren-tits, wrens, bluebirds and other residents were in the state of moult, that one would expect to find in July or August. Even freshly arrived migrants, such as the different Empidonax, Helminthophila, etc., with some exceptions, were in a partial state of moult, the exception being the orioles, blackbirds, phainopeplas and a few others, which were in a normal seasonal plumage.

Some of the birds were not only moulting but also had their feathers actually worn away by the wind. In fact all of them, except those whose habits led them to remain for the most part hidden close under brush, showed more or less of this wear. In dry climates it is usual to find more or less abrasion among the old feathers. The climate of Santa Barbara itself is more or less humid from its proximity to the sea, and though not very much rain falls it is hardly dry enough to compare with the interior, hence this abrasion must be caused by some other agency, which can be nothing else than the heavy north gales that strike the valley from time to time in the spring and usually blow for two or three days at a stretch, and are, as a rule warm and dry. In the vicinity of the town there is but little wind except these gales, and the specimens from here show much less wear than do those from the vicinity of Point Conception. Mr. Reddington kindly collected some birds from this latter place and also from the Santa Inez River valley, some twenty-five miles north of the town. At Point Conception a strong wind is almost constantly blowing, and the specimens from there show this abrasion to a remarkable extent, in many cases the feathers of the head, breast and back being worn down to a sharp angle, with hardly sufficient of the outermost barbs and

barbules left to give a decided color to the bird. One juvenile Red-shafted flicker from there, a fully grown bird, taken on May 30, distinctly shows this abrasion, though it had not progressed sufficiently to greatly dull the fresh coloration of the feathers. On the other hand the Santa Inez River valley is greatly protected from strong winds, and the specimens from there showed no more abrasion than is normal in a dry climate.

The lutescent warblers (*Helminthophila celata lutescens*) taken near the town, on their first arrival even, had all their feathers so much worn at the ends as to destroy the tone of coloration, and evidently showed that their northward trip had been a continual bucking against head winds. All the specimens collected of this species were taken between April 25 and May 2, after which date none seemed to have remained, even in spots apparently well adapted to them for breeding grounds.

I had hoped to secure a fine series of Arizona hooded oriole (*Icterus cucullatus nelsoni*) but these birds confined themselves entirely to the gardens in the town, where their nests were frequently in evidence under the overhanging leaves of bananas and palms, with telltale shreds of fibre hanging down sometimes for a foot or so. Not a single specimen was met with outside the town limits.

The rufus-crowned sparrow (*Aimophila ruficeps*) was discovered breeding in the vicinity of the town, and in fact one specimen was secured within a couple of hundred yards of the old mission. The first one of this species was captured on May 27, its mate escaping from me. One or two more were seen at different dates and two juveniles taken near where the first one was secured, on June 13, as well as the one near the mission, prove that this species breeds here, though I believe there is no previous record from this county.

Anna hummingbirds were in evidence everywhere, and very numerous, but while many unidentified females of the smaller varieties of hummingbirds were met with, the sterner sex of the Allen, black-chinned, and Costa were seldom seen and but few specimens of these taken, though they were probably feasting among the gardens of the town while their domestic partners were attending to household duties.

Bullock orioles, ash-throated flycatchers and Arkansas kingbirds were very numerous upon their first arrival, about the middle of April, but these scattered around the country to their favorite breeding grounds and soon became scarce in the outskirts of the town.

Parkman wrens (*Troglodytes aedon parkmani*) were more numerous in this locality than in any other place that I have ever visited. In fact they seemed to be everywhere, while Vigors wrens, though frequently heard, were very difficult to secure. It appeared to be a foregone conclusion that when a Vigors was heard singing in a live-oak, and what seemed to be the songster was shot at, a Parkman wren was sure to fall, while the former dodged off to the next tree to continue his song. To an accustomed ear the respective songs are so different as to be unmistakable, and yet this result occurred again and again so that but few Vigors wrens were secured, the fact being that they were very wary while the other wren was not at all so, and that the Vigors would stop singing the moment it caught sight of a person while there was sure to be a Parkmans moving around within a few feet of the spot where the singing ceased.

The date of nesting of the white-throated swift (*Aeronautes melanoleucus*) in this vicinity was definitely ascertained by the taking of a female, on May 19, containing an egg almost ready to be laid, with appearances indicating that one or more had already been deposited in the nest. The rocky mountain range back of

the town must present many most desirable breeding localities for these birds, though but few were seen at any one time.

A few thrashers were obtained both from Santa Barbara and Point Conception, though hardly a sufficient number to be of definite value for comparison. A distinct difference in shade of coloration was noticeable however between the specimens from the two localities, so much so as to enable one to separate them at a glance. The Point Conception specimens are of a lighter shade on lower parts and whiter on throat, with line of demarkation on breast between lighter and darker feathers more pronounced than in those from Santa Barbara itself. This difference did not appear to be due to fading, moulting, or wind abrasion, and on further investigation with a good series may prove to be geographical variation. The seasonally late dates on which these specimens were secured were unfortunate as the wing and tail feathers are so badly worn at the end as to have no mensurative value.

California jays were not numerous in the territory visited, and were rather shy, so a much smaller series was taken than had been hoped for, especially as quite a curious fact is noticeable among specimens secured. This is that all those from Point Conception, and the only adult from the Santa Inez River have the lower mandible greatly worn off at the point, causing it to end as if filed squarely across, with a slight backward bevel, but with the file not held sufficiently tight to ensure a flat surface. In some cases the lower mandible is at least one-tenth of an inch shorter than what it apparently should be. The upper mandible in some of these specimens is worn and blunted to some extent, while in others, where not so worn is so much hooked over as to appear abnormal. The specimens from Santa Barbara township, however, have nothing unusual noticeable about the bill. In series from other localities individual idiosyncrasies of various kinds will be found, but in this instance, of the nine adults secured, the four from Point Conception and the single one from Santa Inez River show the same peculiarity, though the typographic, climatic, and floral conditions differ considerably, while the four from Santa Barbara show nothing but a reasonable amount of wear. Unless further observation prove the hypothesis incorrect it would seem as if this abnormal condition was the result of some difference either in the food itself or in the manner of securing it, as the birds may be in the habit of striking the lower mandible against hard ground or rock when capturing or gathering its food.

Bird Notes from Eastern California and Western Arizona

BY FRANK STEPHENS

(Concluded)

Megascops asio cineraceus. Mexican Screech Owl. A male bird shot in the dusk of the evening of August 15th, twenty-five miles below Ehrenberg, on the California side of the Colorado, was identified by Mr. Ridgway as *M. a. cineraceus*. This is probably the form found along the Colorado. I heard screech owls in several places along the river. At about 5000 feet altitude, in the Providence Mountains, I flushed a *Megascops* from a thick pinyon tree growing in a narrow gulch but was unable to find it again; it was probably *bendirei*. In the Hualapai

Mountains I heard some small owl, probably a *Glaucidium*, several nights, but was unable to locate it in the pines.

***Micropallas whitneyi*.** Elf Owl. Above the Needles, on the Arizona side I heard a small owl that may have been this species, but was unable to get a shot at it. This was about twenty miles below Dr. Cooper's type locality. He stated that he obtained but one specimen. It is probable that elf owls straggle to the Colorado River in the spring migrations. I looked carefully along the Colorado at all places visited but found no other evidence of its occurrence there. On Big Sandy Creek, above Signal, we secured three elf owls, finding them by their notes and calls, and shooting them with light charges when seen dimly in trees or bushes in the starlight. Others were heard. The favorite breeding places are old woodpecker holes in giant cactuses. I opened a number of these holes in July, but the only positive evidence that I found of their using the cavities was the finding of two dried carcasses of nearly grown young owls.

***Geococcyx californianus*.** Roadrunner. We saw but few roadrunners and these were mostly near the Colorado River.

***Coccyzus americanus occidentalis*.** Californian Cuckoo. Saw one near The Needles and heard others there about the middle of June, and a month later saw and heard others at Big Sandy Creek.

***Dryobates villosus hyloscopus*.** Cabanis Woodpecker. Hualapai Mountains. Not common.

***Dryobates scalaris bairdi*.** Baird Woodpecker. Rather common over most of the route traveled in Arizona, except in the Hualapai Mountains.

***Melanerpes formicivorus*.** Ant-eating Woodpecker. I saw several of these woodpeckers, apparently a family, on the Hualapai Mountains, between 6000 and 7000 feet altitude.

***Melanerpes uropygialis*.** Gila Woodpecker. More or less common in the timber along the Colorado and Big Sandy Creek.

***Colaptes cafer collaris*.** Red-shafted Flicker. Seen on the Hualapai Mts. and near Ehrenberg in the Colorado River bottoms. Not common at either locality.

***Colaptes chrysoides*.** Gilded Flicker. Seen only near Big Sandy Creek, where they were rather common. Some were seen feeding on the fruits of the giant cactuses on the mesa, but they principally frequented the willow thickets near the stream. No woodpeckers were seen on the Providence Mountains, though this range is fairly well timbered, and seemingly well adapted for their homes.

***Phalænoptilus nuttali*.** Nuttall Poorwill. Heard in nearly every locality where collections were made. Two shot at Big Sandy Creek and one at Bill Williams River.

***Chordeiles virginianus henryi*.** Western Nighthawk. Seen only on the Hualapai Mountains where they were rather common.

***Chordeiles acutipennis texensis*.** Texan Nighthawk. More or less common along most of the route traveled, except on the higher mountains and barren deserts.

***Aeronautes melanoleucus*.** White-throated Swift. Rather common on the Providence Mountains and Hualapai Mountains. I saw a few near Ehrenberg.

***Trochilus alexandri*.** Black-chinned Hummingbird. Two young of the year were on the wing at Twenty-nine Palms, May 18.

***Calypte costæ*.** Costa Hummingbird. Noted at Providence Mountains, Little Meadows and Beale Spring, but they were not common.

***Selasphorus platycercus*.** Broad-tailed Hummingbird. I saw several females

or immature males in the Hualapai Mountains, which from their large size I suppose to be of this species.

Tyrannus verticalis. Arkansas Kingbird. Seen at Twenty-nine Palms, Needles, Little Meadows, Beale Spring, Big Sandy Creek, Bill Williams River and Ehrenberg. They were rather common at most of these places.

Tyrannus vociferans. Cassin Kingbird. Saw one at the base of Providence Mountains and several in the Hualapai Mountains, mostly above 6,000 feet altitude.

Myiarchus mexicanus magister. Arizona Crested Flycatcher. Seen only among the giant cactuses at Big Sandy Creek, where a set of four eggs was taken from an old woodpecker's hole in a giant cactus, July 20.

Myiarchus cinerascens. Ash-throated Flycatcher. None seen in the higher parts of the mountains but generally distributed elsewhere, as I saw the species in the foothills, valleys, plains, and even in the deserts where were growing occasional mesquite or other shrubs. They were usually seen singly.

Sayornis saya. Say Flycatcher. Seen at Providence Mountains, Needles, Beale Spring, Big Sandy Creek and Ehrenberg, but they were not common at any of these places.

Sayornis nigricans semiatra. Western Black Phoebe. Not common. Seen only along Big Sandy Creek, Bill Williams River, and Colorado River.

Contopus richardsoni. Western Wood Pewee. Seen at Twenty-nine Palms as migrants, and at Providence Mountains where they were rather common and apparently resident.

Empidonax difficilis. Western Flycatcher. Hualapai Mountains, rare; Bill Williams River, one migrant, the last of July.

Pyrocephalus rubineus mexicanus. Vermilion Flycatcher. Big Sandy Creek, rather common; Bill Williams River; Colorado Valley near Ehrenberg, not common, as the southward movement had commenced before I got there in August. A farmer in the new settlement of Cibolo, twenty-five miles below Ehrenberg, told me he had brought in a swarm of bees to start an apiary, and that these flycatchers had eaten so many of the bees that the swarm died out.

Otocoris alpestris ammophila. Mohave Horned Lark. Occasionally seen along the Santa Fe R. R. in the eastern part of the Mohave Desert.

Cyanocitta stelleri diademata. Long-crested Jay. I shot one in the Hualapai Mountains, but saw no others.

Aphelocoma woodhousei. Woodhouse Jay. I saw several jays on the Providence Mountains that I believe were of this species, but they were very wild and on such rugged mountain sides that I was unable to get any. I saw a few on the Hualapai Mountains. These were mostly immature birds.

Corvus corax sinuatus. American Raven. Seen occasionally throughout the region traversed.

Molothrus ater. Cowbird. Generally distributed.

Xanthocephalus xanthocephalus. Yellow-headed Blackbird. Seen migrating at Twenty-nine Palms, and at Big Sandy Creek, Bill Williams River, and at Ehrenberg.

Agelaius phœniceus neutralis. San Diego Redwing. Saw a few redwings at Big Sandy Creek and near Ehrenberg.

Icterus parisorum. Scott Oriole. I saw and heard quite a number of these orioles on Providence Mountains, where they were undoubtedly breeding. They were also common at Beale Spring in July, where they were feeding on figs and peaches in the orchard.

Icterus cucullatus nelsoni. Arizona Hooded Oriole. Rather common at Big Sandy Creek and Bill Williams River; not noted elsewhere.

Icterus bullocki. Bullock Oriole. Not common. Young seen out of the nest at Needles the middle of June. Seen at Big Sandy Creek, Bill Williams River and along the Colorado near Ehrenberg.

Carpodacus mexicanus frontalis. House Finch. More or less common everywhere. Very destructive to fruit in the orchard at Beale Spring.

Astragalinus psaltria. Arkansas Goldfinch. Found only at Big Sandy Creek, where they were not common.

Chondestes grammacus strigatus. Western Lark Sparrow. Saw one at Cibolo, Arizona.

Zonotrichia leucophrys. White-crowned Sparrow. Saw migrants in Morongo Pass and at Twenty-nine Palms.

Spizella atrogularis. Black-chinned Sparrow. Saw a female carrying a larva of some kind in her bill, on Providence Mountains, about June first. She came quite close to me and acted as if her family were near. A month later I saw several at about the same altitude (6000 feet) on the Hualapai Mountains. These appeared to be parents and young of the year.

Junco oreganus thurberi. Thurber Junco. Providence Mountains, rare. No juncos were seen elsewhere. I looked carefully in the Hualapai Mountains, but found none and am at a loss to understand why none of the genus occurred there, as I had expected to find *caniceps* or *dorsalis*.

Amphispiza bilineata deserticola. Desert Sparrow. Rather common at base of Providence Mountains. Seen at Little Meadows, Beale Spring and Big Sandy Creek.

Melospiza cinerea fallax. Desert Song Sparrow. A few were seen near Needles, also along Big Sandy Creek, and about lagoons near Ehrenberg.

Pipilo maculatus megalonyx. Spurred Towhee. Common on the Hualapai Mountains.

Pipilo fuscus mesoleucus. Canyon Towhee. A few were seen in rocky gulches and rough hills at Little Meadows and Beale Spring.

Pipilo fuscus senicula. Anthony Towhee. Seen in Morongo Pass on the way out.

Pipilo aberti. Abert Towhee. Rather common in the bottom lands of the Colorado River and its tributaries, to which this species is strictly limited.

Oreospiza chlorura. Green-tailed Towhee. The only one noted I saw at about 6000 feet altitude in Providence Mountains

Zamelodia melanocephala. Black-headed Grosbeak. I saw a number of females, apparently migrants, in the Providence Mountains at 5000 to 6000 feet altitude, but I saw no males in that range. At Beale Spring both sexes were common and destroying quantities of fruit, to the great annoyance of the owner of the orchard, who employed an Indian to shoot the birds. Unfortunately the Indian did not discriminate between the noxious and harmless species. I saw a few of these grosbeaks on the Hualapai Mountains and one male at Big Sandy Creek.

Guiraca cærulea lazula. Western Blue Grosbeak. Seen at various places along the Colorado River and at Big Sandy Creek.

Cyanospiza amœna. Lazuli Bunting. Seen only near Needles and Ehrenberg.

Piranga ludoviciana. Western Tanager. Soon after our arrival at Twenty-nine Palms, May 17, a male of this species came to the little pond at camp and drank. It appeared exhausted. Next day it was very tame, keeping in the lee

of some bushes where we all were trying to get out of the prevailing sandstorm. He caught flies on the wing, and alighted on our shoulders several times, almost permitting us to handle him. A few Louisiana tanagers were seen on the Providence Mountains. The last days of July several came into a vineyard on Bill Williams River and other migrants were seen later along the Colorado River.

Piranga hepatica. Hepatic Tanager. A male shot July 8, at 6300 altitude on the Hualapai Mountains was the only one seen. As is usual with this species, it was in pines.

Piranga rubra cooperi. Cooper Tanager. The two white men living at Twenty-nine Palms described a bird closely which must have been of this species; they said it was the only one they had ever seen, and that it appeared a fortnight previously and remained in the shrubbery around their cabins a week. It had probably wandered from its usual haunts in the willow groves of the Colorado River bottoms. August 14 I shot a male Cooper tanager twenty-five miles below Ehrenberg on the California side of the river. This was the only individual I saw on the trip.

Petrochelidon lunifrons. Cliff Swallow. Seen occasionally at Big Sandy Creek, Bill Williams River and about the Colorado near Ehrenberg. A few old nests were plastered along the nearly perpendicular cliffs of the Bill Williams River canyon.

Hirundo erythrogastra. Barn Swallow. Noted only at Twenty-nine Palms, where several individuals appeared to be summer residents.

Tachycineta lepida. Northern Violet-green Swallow. Rather common about the summits of Providence Mountains, probably residents. I saw two flocks along Big Sandy Creek, July 17, migrating, and another flock at Parker on the Colorado River a fortnight later.

Phainopepla nitens. Phainopepla. Seen at base of Providence Mountains, Needles, Beale Spring, Big Sandy Creek and Ehrenberg, usually in small numbers.

Lanius ludovicianus excubitorides. White-rumped Shrike. Seen in most of the localities visited, but not at all common.

Vireo gilvus swainsoni. Western Warbling Vireo. Heard in the Providence Mountains. Not noted elsewhere.

Vireo solitarius cassini. Cassin Vireo. Providence Mountains, 5000 to 6000 feet altitude; not common.

Vireo solitarius plumbeus. Plumbeus Vireo. Rather common in the pinyon belt at base of the Hualapai Mountains. Not heard above 6000 feet altitude.

Vireo pusillus. Least Vireo. Seen and heard at various places along the Colorado River and at Big Sandy Creek. I thought I heard *Vireo vicinior* on Providence Mountains, but as I could not see it I may have been mistaken, its song being very similar to that of *cassini*, which was present a little higher up the mountains.

Helminthophila luciae. Lucy Warbler. First seen at Little Meadows, where I shot the male parent and one of the brood of young June 21. This was about fifteen miles east of Fort Mohave, where Dr. Cooper obtained the types. I failed to find the species along the Colorado River. Two more males were shot in July at Big Sandy Creek where the species was rare. Not observed elsewhere.

Helminthophila virginiae. Virginia Warbler. Shot one on the Hualapai Mountains. Two or three more were seen there. Not observed elsewhere.

Helminthophila celata lutescens. Lutescent Warbler. Seen migrating at Twenty-nine Palms May 17.

Dendroica æstiva. Yellow Warbler. Migrants, mostly immature, were seen at Big Sandy Creek the latter part of July.

Dendroica nigrescens. Black-throated Gray Warbler. Rather common in the higher parts of the Providence Mountains in June.

Icteria virens longicauda. Long-tailed Chat. Found only in willow thickets in the lower valleys, such as that of the Colorado River and Big Sandy Creek. Noisy, as usual, in summer.

Wilsonia pusilla pileolata. Pileolated Warbler. Seen migrating northward at Twenty-nine Palms, May 17, and below Ehrenberg, going southward in August.

Mimus polyglottos leucopterus. Western Mockingbird. I observed one at base of Providence Mountains, one at lower edge of the pine belt in Hualapai Mountains, two at Big Sandy Creek and several near Ehrenberg.

Toxostoma curvirostre palmeri. Palmer Thrasher. Big Sandy Creek, rare.

Toxostoma bendirei. Bendire Thrasher. Two shot at Beale Spring were the only ones observed.

Toxostoma lecontei. Leconte Thrasher. Seen at Twenty-nine Palms; one shot at Danby (a small station on the Santa Fe R. R., in the Mohave Desert); two young of the year shot at base of Providence Mountains.

Toxostoma crissale. Crissal Thrasher. Seen at a number of places, including The Needles, Little Meadows, Beale Spring, Big Sandy Creek, Bill Williams River and Hualapai Mountains. The latter was in a location totally unlike any in which I have previously seen this species, being in the lower edge of the pine belt, as an immature bird was shot at 6000 feet altitude, July 8, and a new nest was found in the pinyon and juniper belt a few days previously.

Heleodytes brunneicapillus anthonyi. Desert Cactus Wren. Seen in Morongo Pass; shot at base of Providence Mountains; brood of young seen at Little Meadows; also seen at Beale Spring, Big Sandy Creek and near Ehrenberg. Not common at any of these places.

Salpinctes obsoletus. Rock Wren. Heard on Providence Mountains; a family seen below Beale Spring the latter part of June; rather common on Hualapai Mountains.

Catherpes mexicanus conspersus. Canyon Wren. Providence Mountains and Hualapai Mountains; not common.

Thryomanes bewicki leucogaster. Baird Wren. Found only at Big Sandy Creek, where two moulting birds were shot about July 20.

Troglodytes aedon aztecus. Western House Wren. Seen only on the lower part of the Hualapai Mountains.

Sitta pygmaea. Pygmy Nuthatch. Rather common in the pine forests of the Hualapai Mountains.

Parus inornatus ridwayi. Gray Titmouse. I saw two in the Providence Mountains.

Psaltriparus plumbeus. Lead-colored Bush-tit. I saw a small flock in the Providence Mountains at 6300 feet altitude; they were rather common in the Hualapai Mountains up to 6500 feet altitude.

Auriparus flaviceps. Verdin. Rather common at most localities visited except in the mountains.

Polioptila cærulea obscura. Western Gnatcatcher. Seen in the Providence and Hualapai Mountains, but not common in either range.

Polioptila plumbea. Plumbeous Gnatcatcher. Little Meadows, several seen; Beale Spring, rather common; Big Sandy Creek, rare; Bill Williams River, rare; Ehrenberg, occasional.

Sialia mexicana bairdi. Chestnut-backed Bluebird. Several seen, including spotted young, near summit of Hualapai Mountains.

Stray Notes From Southern Arizona

BY F. H. FOWLER

(Second Paper^a)

ELF OWL. The smallest, as well as one of the most interesting of all our owls, is about the commonest of the family in southern Arizona. Its favorite nesting-place is the sahuara cactus and so "familiarity breeds contempt" only in the few cases where it abandons its beloved cactus and nests in a sycamore, cotton-wood, mesquite, or other tree.

The only nest I found I came upon by accident. For some time I had kept watch of a pair of ant-eating woodpeckers that were excavating a nesting site in a sycamore stub, and at last when I judged there ought to be a full nest of eggs, I went out to secure it, armed with a ladder, saw, and sledge hammer. The hole was about thirty feet from the ground, and was easily reached by a man sent up the ladder, who, after sawing the stub half off, knocked away the top with the sledge. No sooner had he taken a peep into the shallow cup that remained, than he snatched off his hat and crammed it into the opening, shouting to my father at the same time, "Captain, here's one of them air little owls." And after another look, "She has three eggs, too!" The eggs and birds were soon safe in our hands, and the former are now among the most prized specimens of my collection. The parent was a very close sitter, and made no attempt to leave the eggs, even struggling to remain on them.

About this time another of the species which was found sitting in the lower branches of a live oak, in a canyon a few miles south of the post, was collected by Dr. A. K. Fisher. So small is this owl that my father, who first saw it, called to the Doctor, "Say, here is a little owl about an inch and a half long," and he was very much surprised at the greater size of the bird, when he got a chance to examine it.

At Fort Bowie, on October 5, 1893, the bartender in the sutler's store caught the only one I noted at that place.

Capt. Bendire found them breeding commonly in the sahuaras near Tucson, and says in his paper on this species, in the first volume of his work, that, although they probably breed wherever found, the only eggs obtained (up to that time) had been collected at, or near that place.

ARIZONA WOODPECKER. The Arizona woodpecker (*Dryobates arizonæ*) is, outside of the alpine three-toed and pileated, the most interesting member of the woodpecker family, that I have ever seen. So far as I have noted, the species is never common, never noisy, and never at rest. I have not found it except in live-oak woods, and at Fort Huachuca; on a good field day I used to see about six on an average. Not even the chickadees are as active as this little woodpecker. He will alight on the main trunk of the tree, or generally on one of the largest limbs, and the moment his claws are fastened in the bark he begins an untiring search for insects and grubs. He ascends rapidly in spirals picking and prying away small pieces of bark in search of food; when a promising limb is reached out he goes on it, often on the lower side. The search over in one tree, he wastes no time in looking around, but launches out, with barely a glance to determine the course, in his undulating flight to the next, there to repeat the performance. When closely approached, he works around the tree without paying any especial attention to the intruder, and when thoroughly frightened he will take flight with

^a For explanatory introduction to these notes see THE CONDOR, V, p. 68.—ED.

as little warning as he does when simply in search of food. While going up the tree he gives, from time to time, a characteristic call, much like that of the hairy woodpecker.

Although I never saw the nest of the bird, one was found by Dr. Fisher, in a maple, about twenty feet from the ground, which contained naked young on May 14. A nest containing young was found in the Chiricahua Mountains by Mr. W. W. Price, in 1893. As far as I know, these birds were found only in the live-oaks of the western and southern slopes of these mountains.

RIVOLI HUMMINGBIRD (*Eugenes fulgens*). Early one bright, sunny morning in the first part of September, 1892, while waiting for breakfast, I chanced to take a stroll through our garden, which at that time was one of the most beautiful in the post of Fort Huachuca. The diminutive rufous hummers were out in great force, it seemed to me, more for the purpose of fighting than feeding. While watching the antics of these birds, my attention was attracted by a monster hummingbird that flitted over the house, without any apparent effort, and began to feed among some scarlet geraniums in a large flower-bed. All I knew when I made a rush for the house, was that right there in our garden, was something very rare in the bird line. When I got back with my gun the bird had left, but was soon found on the other side of the house, where, after a few unsuccessful attempts, I finally shot it, and I do not know that even the trogon, of which I have spoken, pleased me as much as did this fine hummer, with his black iridescent breast, showing green in some lights, the bright emerald gorget, and forehead of rich violet blue.

Its motions were unlike any other hummer I have ever seen as its wings did not hum in the manner that has given this family its name, but cut the air with strong, firm, wing beats. Its flight was erratic, like that of the hummingbird moth, and at times like that of a bat. It would even soar, or sail for a few feet. It was not very shy, but when it made up its mind to go it would flit away on an erratic course without the slightest warning.

I saw this hummer next at Rucker's Canyon, in the lower end of the Chiricahua Mts. in the last part of May '94, where, as we sat skinning some specimens, a fine male darted by, hovered a moment over some flowers, and then disappeared up the canyon.

When Dr. Fisher and myself reached Fly Park, in the Chiricahuas the first week of June, 1894, we found this, as well as the blue-throated hummer, common. They had evidently just come up from Mexico on their spring migration, and had not as yet spread through the deep canyons where they breed. Here we found them at their best, the males continually fighting, though not so fiercely as the smaller species, or displaying their brilliant colors to enemies, and admirers, from some sunny twig. As far as my observations went, I remember only males, and no females, but Dr. Fisher obtained one or more females.

WHITE-EARED HUMMINGBIRD. The history of the white-eared hummer (*Basilinna leucotis*) within our border is very short, and it is to be hoped that further notes on this species (which was recorded for the first time in the United States in 1894) can be obtained soon.

On the morning of June 9, 1894, Dr. Fisher and myself started from our camp at Fly Park for a hunt. We had not gone fifty yards from the tent, when the Doctor saw, perched on a twig, a hummer which had a decidedly white patch behind its eye. He called my attention to the peculiarity, and then shot the specimen. In the hand the white patch was very noticeable, and he thought it was an immature specimen of the Circe hummer, but it has since been identified as the white-eared hummingbird, a straggler from Mexico. Another specimen has since been secured in the Huachuclas, I believe, by Mr. Lusk.

Joint Meeting of the American Ornithologists' Union and the Cooper Ornithological Club of California

THE combined forces of the American Ornithologists' Union and the Cooper Ornithological Club assembled at the California Academy of Sciences, San Francisco, May 15 and 16. The members of the A. O. U. and their friends, about forty strong, had just completed an enjoyable trip from the east via the Santa Fé route, upon which stops were made at Santa Fé, Adamana and the petrified forest, Grand Canyon, Hesperia in the Mohave Desert, Riverside, and Los Angeles. At Los Angeles a reception was tendered by members of the Southern Division of the Cooper Club.

The meetings were held in the Lecture Hall of the Academy and the first session was called on Friday, the 15th, at 11 o'clock, by Dr. C. Hart Merriam, Charles R. Keyes acting as secretary. Subsequent sessions were held on the afternoon and evening of the same day, and on the following morning. An elaborate luncheon was provided on both days, by the members of the Academy, at the Poodle Dog, where good cheer was dispensed with a lavish hand. To the kindly hospitality of the Academy in large part was due the success of the meeting.

During the first session Mr. Joseph Grinnell read a valuable paper on the 'Origin and Distribution of the Chestnut-backed Chickadee,' which was followed by remarks by Dr. Merriam. Mr. Leverett Mills Loomis then read 'Recognition of Geographic Variation in Nomenclature,' in which he took issue against the present-day tendencies towards trinomial profundity. This suggestive essay was discussed by Mr. Chapman and Drs. Merriam and Dwight.

During the afternoon session Mr. Walter K. Fisher exhibited a set of slides illustrating 'An Island Community, or Bird-life on Laysan.' Laysan is a little coral islet situated about 800 miles west-northwest of Honolulu, and harbors a considerable variety of sea-fowl and a few land birds, all the latter being peculiar to the island. Mr. Donald A. Cohen read an interesting paper, 'Some Observations on the Prairie Falcon' which was followed by a talk by Mr. Joseph Mailliard, 'Notes on the Birds of Chili,' in which the difficulties of a collector in that country were vividly portrayed. Mr. Joseph Grinnell read a short paper on 'Call Notes of the Bush-tit,' followed by 'Remarks on the A. O. U. journey across the Continent,' by Mr. Louis A. Fuertes.

During the evening session Mr. Frank M. Chapman gave a most entertaining lecture on 'The Bird Islands of our Atlantic Coast' illustrated with beautifully colored lantern slides. Mr. Chapman commenced with the bird community on Percé Rock in the Gulf of St. Lawrence and sketched the principal bird islands of the coast, finishing with a remarkable flamingo colony in the Bahamas. Mr. W. Otto Emerson then took the meeting to 'The Farallon Islands,' in an illustrated talk showing many views of these celebrated bird rocks off our California coast.

The Saturday morning session was occupied largely by Mr. Wm. L. Finley's 'Oregon Birds Caught with a Camera,' illustrated with superb lantern slides, from photographs taken by Messrs. Bohlman and Finley. In point of interest and value this set has never been surpassed. Especially noteworthy were the series of life-history views, detailing various stages in the growth of young birds, and the domestic duties of many of our western species. Mr. Fuertes, by request, then entertained the meeting by imitating the songs and calls of a number of eastern birds. The following papers were read by title: 'The Cassin Auklet,' Howard Robertson; 'Notes on the Bird Conditions of Fresno District,' J. M. Miller; 'Do Valley Quail Use Sentinels?' Jno. J. Williams.

The A. O. U. then passed resolutions thanking the Cooper Club, the Academy of Sciences and the Committee on Arrangements, after which the meeting adjourned. In a special meeting the Cooper Club passed resolutions of thanks to the Academy and Mr. Loomis, for the generous entertainment extended to members of the Club.

After luncheon, on the invitation of President Jordan, the meeting visited Stanford University in a body.

The following members of the A. O. U. from the east were in attendance; J. A. Allen, F. E. L. Beal, Louis B. Bishop, H. C. Bumpus, F. M. Chapman, J. L. Childs, Mrs. E. B. Davenport, J. Dwight, Jr., J. H. Fleming, Louis A. Fuertes, C. Hart Merriam, T. S. Palmer, Otto Widmann. Of the Cooper Club there were thirty-three members present.



DR. EDGAR A. MEARNS

WE take pleasure in resuming our series of portraits with that of Dr. Edgar A. Mearns, U. S. A. Dr. Mearns is well known to westerners thru his connection with the Mexican Boundary Survey, and by his numerous articles on western ornithology and mammalogy. The Doctor began his bird studies in the east, but has worked pretty much over the far west, in line of duty, particularly in the arid regions of the southwest, adjacent to our National Boundary. Dr. Mearns' first paper was on The Birds of the Hudson Highlands, published in the Bulletin of the Essex Institute (1878-79). The greater number of his later articles have appeared in *The Auk* and in the Proceedings of the U. S. National Museum.

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Minutes of Club Meetings

NORTHERN DIVISION

MARCH.—The regular meeting of the Northern Division was held with President H. R. Taylor at Alameda, March 7, thirteen active members and four visitors being present. Mr. Cohen reported a gift to the Club of four cases of mounted birds from Mr. A. M. Shields. On motion a vote of thanks was extended to Mr. Shields.

The following were elected to active membership in the Club: S. B. Show, Stanford University; Lloyd Newland, Palo Alto; Theo. C. Zschokke, Palo Alto. Seven applications for active membership were received, from A. S. Bunnell, Berkeley; Margaret Day, Santa Barbara; Edmund M. Hayden, Santa Barbara; Dr. H. N. Miner, Berkeley; J. C. Bay, Haywards; Earl Mulliken, Berkeley; Jessie L. Newsom, Oakland.

Four resignations were accepted, as follows: N. M. Flower, F. W. Kobbe, Harry Putnam, Miss M. E. Skillings. The name of Mr. J. L. Young was dropped for non-payment of dues.

It was moved and carried that the Cooper Club celebrate its tenth anniversary in connection with the special meeting of the A. O. U. in San Francisco, May 15 and 16. Mr. Joseph Grinnell presented the following amendment to the Constitution, which was unanimously adopted, subject to the action of the Southern Division:

Article III, Section 2. "Any person seriously interested in the study of Western birds and of not less than sixteen years of age shall be eligible to active membership."

The program was carried out as follows: "General Habits of the Prairie Falcon," Don-

ald A. Cohen; "Bird Trapping Among the Pomo Indians," S. A. Barrett; "A Remarkable Flight of Louisiana Tanager," W. Otto Emerson. After refreshments and a social time the meeting adjourned.

C. R. KEYES, Secretary.

SOUTHERN DIVISION

FEBRUARY.—The February meeting was held on the 28th in room 1, City Hall, Los Angeles, with Mr. Daggett presiding and nine members present. A committee consisting of Howard Robertson (chairman), Eugene Law, F. S. Daggett and H. J. Lelande was appointed, after due motion, to prepare a revision of Grinnell's Birds of the Pacific Slope of Los Angeles and Orange Counties.

The Club was honored by the presence of Prof. F. E. L. Beal, of the Biological Survey, who gave a short talk on the work accomplished by the department in the examination of the stomachs of about 50,000 birds, during the past few years, of the valuable data collected, and the various beneficial results to be derived.

Mr. Walter Richardson, who recently returned from South Africa, after an absence of about five years, gave a very entertaining account of his travels, with a description of the country, birds and mammals that were observed.

"Early Nesting of Anna Hummingbird in the Vicinity of Santa Monica" by W. Lee Chambers was read. Mr. Daggett read notes from a letter written by Joseph Mailliard, who has been collecting in Chile. Mr. Robertson read a very interesting account of a trip to our coast islands, entitled "A Day with Cassin Auklets."

H. J. LELANDE, Secretary.

MARCH.—The March meeting, which was postponed from the 31st ult., was held on April 11th, in room 1, City Hall, Los Angeles, with M. Daggett presiding and seven members present. The amendment to Article III, Sec. 2, of the Constitution was carried. (See minutes of Northern Division.) The secretary was instructed to communicate with Mr. John H. Sage, Secretary of the A. O. U., in order to obtain information concerning the plans of the A. O. U. party coming to California in May. A committee of three, including the president, secretary, and Mr. Howard Robertson, were appointed to devise a plan of entertainment for visiting members of the A. O. U. The name of Mr. Harry Swarth was added to the revision committee appointed last month. The Club adjourned to meet again April 30, at the residence of Mr. W. B. Judson, Los Angeles.

H. J. LELANDE, Secretary.

WANTED.—Every dealer and collector to send me his address that I may send out sample sheets of my *Standard Field Note and Data Blank Books*, endorsed by advanced collectors and dealers. Recommended by Ornithological Clubs. "All answered." Address,

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DR. M. T. CLECKLEY,
457 GREENE ST. AUGUSTA, GEORGIA.

WANTED.—Vols. of the *Auk* and *Nuttall Bulletin*, also Bendire's Life Histories Vol. I, and similar publications. Will give in exchange rare sets of Raptors, and other eggs, bird skins, or cash.

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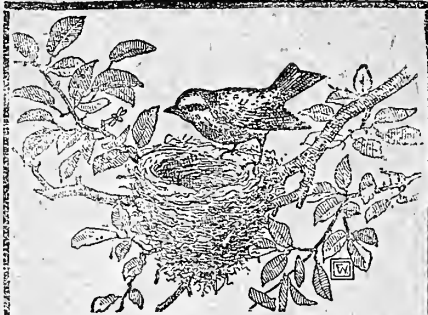
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THE CONDOR

A Magazine of Western
Ornithology



Volume V

September-October, 1903

Number 5



W.K.F.

COOPER ORNITHOLOGICAL CLUB



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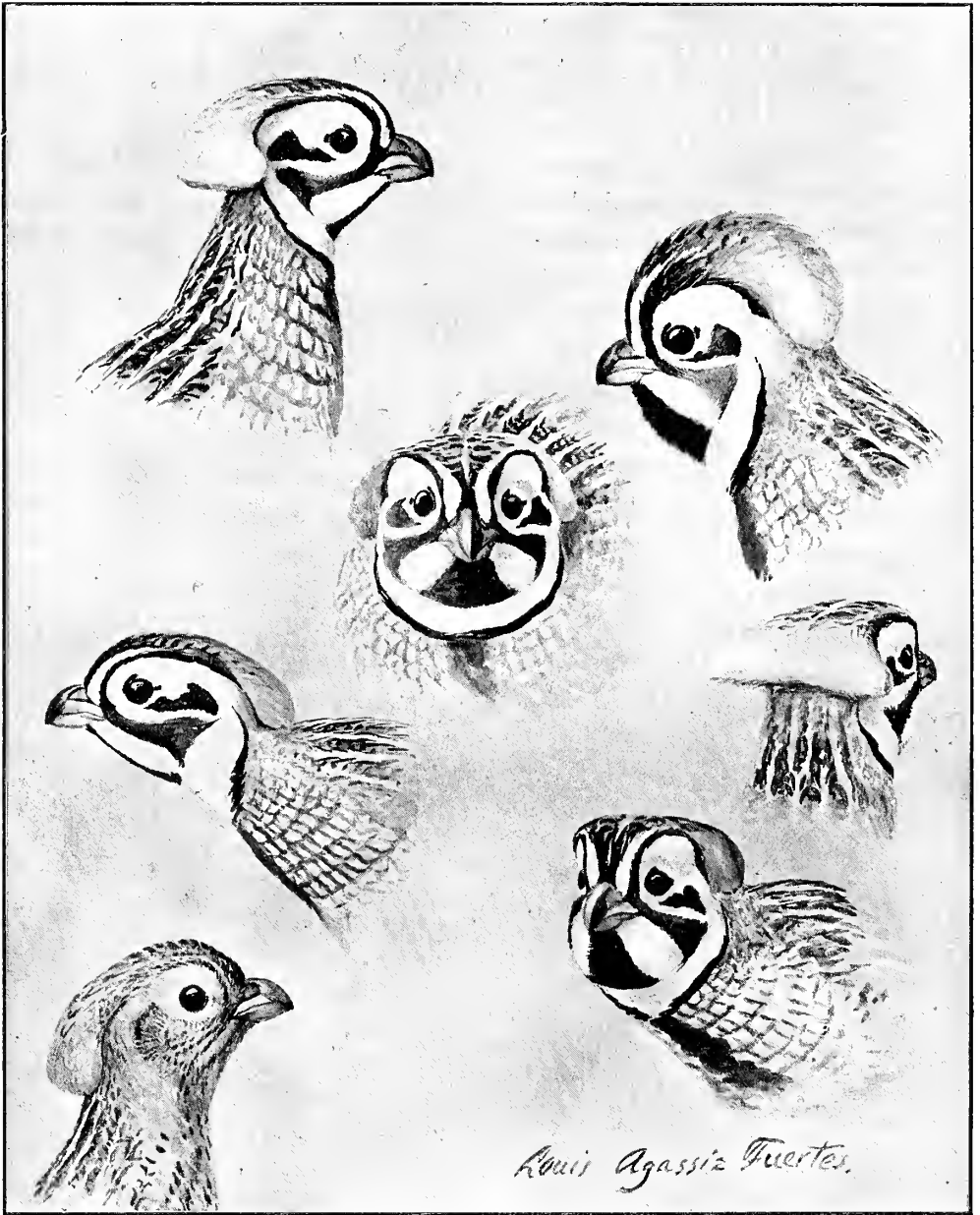
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THE MEARNS QUAIL: SHOWING POSITIONS ASSUMED BY CREST

DRAWN BY LOUIS AGASSIZ FUERTES

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume V

September-October, 1903

Number 5

With the Mearns Quail in Southwestern Texas

BY LOUIS AGASSIZ FUERTES



F all the bizarre and curious creatures that live in our county, it would be hard to find one more arbitrarily marked, or colored more apparently in opposition to all the laws of protective gradation and coloration than the Mearns quail, or as has been longer known, the Massena partridge or "Fool Quail." It is especially noticeable in this case since the other genera in the family are among the most remarkable exponents of the perfection of 'locality painting,' being dark above, where the most

light strikes them, and pale below, where the shadow comes, thus making a monotinted ground upon which the most exquisite detail of scenery is painted. This assists the creature to be assimilated into its natural setting to a degree which only those who have come face to face with a sitting grouse or quail can truly appreciate. Therefore, when we see the fantastic little cock Massena with his dark chestnut breast, jet black belly and flanks, and harlequin-painted head, it is hard to conceive how he was ever able to qualify in the race for survival among a group of birds so marvellously protected as his congeners.

With the prospect of a field trip into the "Big Bend Country" in western Texas, I looked forward with the keenest pleasure to meeting the Mearns quail (*Cyrtonyx montezumæ mearnsi*) for I felt sure that he would, in some ingenious way, justify his bold deviation from his family's stock traits. The accounts I had heard of his stupid tameness made me wonder the more, for it is a fairly good rule that those birds most beautifully assimilable in their natural landscape, rely on their inconspicuousness the most, and those, which do not thus hide in 'full view' take flight or run on the apprehension of danger. Here seemed to be a strong contradiction, which I hoped to solve.

Our first invasion into his territory was in the Chisos mountains, at the extreme reach of the "Big Bend" of the Rio Grande. After a long hot ride, we finally ascended the foot-slopes at about sunset, and worked into a dwindling trail which finally became lost in an old arroyo, coming down from a great gulch in the mountains. We camped at last by a 'well' that one of our number discovered in the brush about fifty yards from the trail, and tired and hungry almost to oblivion, we ate our bacon, beans, and biscuit, and rolled up in our blankets in the beautiful glow of the full moon.

I awoke in the cool, just before sun-up, and was lazily dressing, half out of my sleeping-bag, when my sleepy eye caught a slight motion in the grass about twenty feet away. I looked and became aware that I was staring at my first Mearns quail. Even as I took in the fact, he apparently framed up his ideas as to *his* vision, and telling himself in a quiet little quail-voice that it were perhaps as well to move on and look from a safer distance, he slimmed down his trim little form and ran a few steps. Meanwhile I was clumsily trying to get my gun out from under my sleeping bag, where I had put it to keep it out of the dew. The quail, getting wiser every second, doubled his trot, and with head erect and body trim ran like a plover for a few yards through the short desert grass, and with a true quail *f-r-r-r-r-r-r-r-r-r* burst into flight and dropped into the thick brush across the arroyo. The most noticeable thing about him as I watched him running was the curious use of his queer little crest. Instead of elevating it as the mountain quail does his, he raised his painted head on slim neck and spread his flowing crest *laterally*, till it looked like half a mushroom, giving him the most curious appearance imaginable. When he flew I marked him down carefully, hastily drew my boots half on, grabbed my gun and stumped after him with all speed. I got to his point within a short time, but thrash and kick around as I might, I never succeeded in making him flush a second time. Thus ended the first chance.

Later, when we had reached the foot of the gulch and made camp under a noble old pinyon, we had opportunity to learn more about the quail, tho we never had such a good view as that first one. A curious, quavering, owl-like cry attracted our novelty-seeking ears. A pigmy owl perhaps? Tho frequently heard in the scrubby oaks at the edge of the woods, or even *in* the woods, it proved a true will-o-the-wisp, and invariably led us out into the basting-hot brush on the hillside, among the cacti and slide-rock. At first we approached it cautiously, or carefully tried to 'round it up' by going to either side of it. But it always eluded us, and we had only our guesses to tell what it was. We were beginning to guess right, however, and one lucid day I decided to waste no more time. So the next time the sad little cry sounded, off I went toward it as fast as possible, until I thought I was near the place. Then I stopped and listened. Again! Only waiting long enough to ascertain that the sound came from a particularly dense bunch of *Dasylerion*, cactus and other desert brush, I jumped in and made for the place, never heeding the noise I was making. On, to the point, and right on, when *frrrrrrrrrr*, out boiled a cock Massena, and *frrrrrrrrrr*, out went the hen after him at another angle. I was nearly ready, but not quite, and by the time I was 'on' him he had dropped, woodcock-like, after a flight of only a rod or two. So, also, had the hen. So there were no quail for me this time, as I was unable to flush them again. But I had "found a wy," and knew that some day I'd make it succeed. Later I had the pleasure of seeing a beautiful cock, shot by one of the others, and the next day the strange pinkish hen was brought in. With a wider knowledge of the bird's ways and the kind of cover he preferred, his curious markings seemed less of a contradiction. Many partridges have black or very dark ventral patches which

they obviate by squatting: the Gambel partridge, chestnut-bellied scaled quail, the European partridge and others; and Mearns quail has this same thing only to a greater extent. He chooses the densest and deepest brush cover for a retreat, and like the meadowlark keeps his wonderfully graded back toward the danger-side. The illustration^a from Mr. Bailey's photograph shows how easily he becomes inconspicuous by this simple trick, and it is fair to attribute his black ventral markings to other causes than that of direct protection when offset by the facts of his chosen cover and the remarkably protective character of his upper parts. And like many other sharply marked creatures, the very contrasts which look so conspicuous when seen in the hand, isolated from the sharp lights and shadows of the natural environment, serve to so 'cut up' the creature that in nature all semblance of a bird is lost; the head is cut from the body, and then reduced to a non-committal jumble, which is one with w lies beyond.

In the gulch near where we were camped was a lovely little mountain brook, coming from a seep-basin high in the mountains, tumbling as a thread-like fall from a tall cliff at the head of the gulch, a mile above camp. In the canyon were noble jack oaks, gnarly arbutus trees, and a few nut-studded pines, and upon the steep talus slope stood a splendid grove of tall conifers. This place was naturally the center of bird life, and here we found for the first time within our borders the Couch jay (*Aphelocoma sieberi couchi*). Stephens whip-poor-wills (*Antrostomus v. macromystax*), and band-tailed pigeons (*Columba fasciata*) were here, and numbers of 'carpinteros,' the noisy and sociable ant-eating woodpeckers (*Melanerpes formicivorus*). Occasionally a big blue-throated hummer (*Caligena clemencie*) would come skittling up the gulch, for all the world like a little swift, uttering his sharp little squeak every two seconds. Perhaps he would alight on the

dead lower twigs of a drooping pine branch, and jumble his squeaks together into a kind of little song: more likely he would zip by like a bullet and disappear up the gulch. These and many other rare and interesting birds made me temporarily neglect the quail, after a few more failures, and I left the Chisos without a single bird.

But my hope was yet young, and as we moved up toward the Davis mountains I had visions of a brace. These, like the first, failed to materialize, as did those which I harbored for the Sacramento in New Mexico.

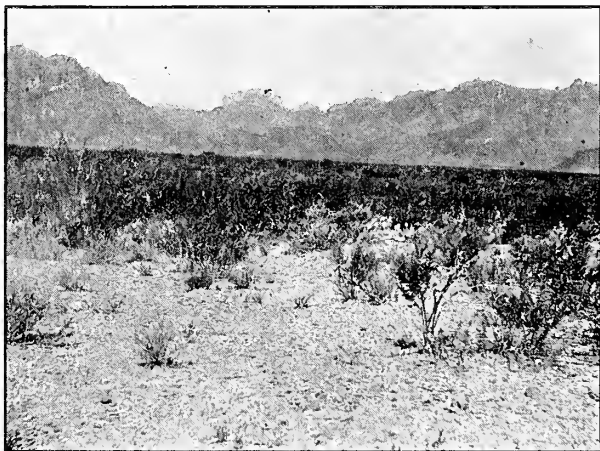
Late in the summer we left Carlsbad, New Mexico, with our outfit, heading for the Guadalupe mountains, the "Walloopias" of the natives, for our last mountain work of the season. Up we went from the Pecos desert into the juniper-lad foot-hills, where we camped our first night. In the morning I looked around, and was surprised at what I saw. Indeed, I rubbed my eyes to see if I



MEARNS QUAIL
FROM A DRAWING BY THE AUTHOR

a. For the use of this and the photograph of the Chisos Mts. acknowledgements are due to Mr. Vernon Bailey, and the Biological Survey.—ED.

were seeing aright. *Goats in trees!* Yes, it was all right, and there in the sprawling junipers, feeding or resting, were numbers of white Angora goats, the chief product of the country, as comfortably at home as cats! We soon left the goat



CHISOS MOUNTAINS FROM BELOW ROCK SPRING

country, and went up through the bigger growth of the upper Transition Zone, and finally came down again into the semi-tropical atmosphere of 'Dog Canyon'. Up through this broad, waterless, sun-baked basin we worked, until sixty miles further up we came again into the junipers and yellow pines. Oak-covered hills rose at our sides and ahead of us, ending in barren rock ridges fifteen hundred or two thousand feet above us. The high gulches were rich in timber but poor in surface water. This place was the last stand of the Mescalero Apaches, and their weed-grown mescal pits, arrowheads and bits of broken pottery gave evidence of their happy days as plainly as the corroded cartridges of the old Government "Henry .50's" that we found, attested to their final destruction. New things attracted us here, and our stay of four days was among the pleasantest of our summer's experiences. The gulches offered most of interest, so three of our days were spent in working between camp and the crests, 8500 feet above sea. But we had come into this camp in the late afternoon, and had had no opportunity to look over the hot basin.

So I decided, on our last afternoon, to make a good strong search of the lower levels, and started from camp at about two o'clock with a visitor who had "met up with us," and who said he would like to go out. We went 'down gulch,' and had hardly been out half an hour when we heard the old familiar seductive call: Mearns quail three points off the weather bow!

Well, soon after we put them up: my friend got one and I another. They were cock and hen, both well shot and in strangely good feather for the time of year. He was good enough to say he had shot his for me, and in less than an hour I was back at camp, happy as a king, painting *my* Mearns quail. Thus ended the last chance, for the next day before sun-up we broke camp and left the mountains for good.



MEARNS QUAIL, WHITE MTS., N. M.

Some Observations on the Nesting Habits of the Prairie Falcon

BY DONALD A. COHEN

Read before the A. O. U.—Cooper Club Convention, May 16, 1903

THIS falcon, *Falco mexicanus*, is very rare in the San Francisco Bay region and in a radius of a day's journey about the adjacent territory. Nowhere does it appear to locate its eyry upon the rocky sea coast after the manner of the duck hawk (*Falco peregrinus anatum*), but prefers the low mountain ranges interspersed with plenty of canyons and rolling valleys. It is hardly necessary to mention that it is less plentiful than in bygone years, having fallen into line with many others of our fauna in their retreat from the encroachments of civilization. In June 1884 while visiting friends in the foothills of Mt. Diablo, Contra Costa county, I was one of a small party in quest of birds' eggs among the cliffs and rocks on the sage-covered slope of the mountain, and incidentally flushed a family of prairie falcons from one of the loftiest cliffs. There were five of them, the family of that year, that circled overhead at no great distance during our presence near the cliff. My host, who was present, said they were prairie falcons and said that Walter Bryant had gone over these rocky cliffs by means of ropes and taken their eggs, from time to time. In later years when I made Mr. Bryant's acquaintance he corroborated this. I first noticed the birds here in 1881 and have wondered for how many centuries the species nested in that spot. About the last set of eggs taken in this locality was, from memory, in 1889. It was of four eggs taken by a boy living near by and procured for me by my friend and exchanged to the late Chester Barlow. The nest was described as being placed on a ledge and lined with a few sticks and I believe, some grass, while all the prairie falcons and duck hawk sets I have ever taken, about twenty-five sets, were all in small caves or potholes, with a bed of sand or fine gravel and sand with a few bones of small mammals and birds. The birds were either killed off by the numerous campers that infest the region or worried into leaving for more secure quarters. The boulders and cliffs and even the top of the ridge is not so high but that rifle balls will go over from the road in the narrow valley below. Among one of my curios is a partly flattened bullet from a large calibre rifle that I picked up at the base of a boulder near the top of the ridge.

In this latitude, I may assume, the birds are constantly resident except for excursions during fall and winter when the young are probably in search of a home, as the old ones will not suffer their presence any longer, so I am told by a mountaineer. On two occasions I have noted single birds in Alameda. One attacked a band of half grown turkeys early in the fall and the other flew from an oak at some pigeons inside their enclosures and struck the wire netting with considerable force. Being well acquainted with the duck hawk in adult and juvenile plumages there is no mistaking a prairie falcon at close range.

The complement to a set of eggs is five and it is hardly possible to confound them with eggs of the duck hawk. As a rule those of the former are plainer and lighter colored, and in exceptional cases some are exquisitely blotched or mottled, being gems among gems. In the general run they lack the generous rich coloring of some of our duck hawk eggs but some of the best sets possess such a different style of beauty as to hold their own with any set of duck hawk I have ever seen. They average a trifle smaller although the superior size of the duck hawk over the prairie falcon is greater in proportion.

The observations on one pair of birds for a few years are limited to one day each year and during the short period of collecting the set, and owing to forced marches to and from the nest the time was necessarily short. It was in an amusing way that I became acquainted with the pair. Having formed the acquaintance of a miner, stockman and hunter in my home town during November 1897 talk gradually drifted into ornithology and falcons. He told me there was "a pair of those bullet hawks" nesting on his ranch and we made arrangements for my visit in the spring. The following April I set out on my wheel and by late afternoon had made a creditable run over the mountains and was suffering considerably from the intense heat. Water was hard to get owing to the drought having let the small streams run dry. Within a few miles of my destination was a small stock ranch and the proprietor, a young man, hailed me.

"Say! where are you going with that fish basket?"

"Fishing, of course!" I replied.

"Oh! that's played out. Do you know Harry Taylor?"

This was too interesting to pass so we adjourned to the cabin and talked things over with spring-water lemonade and big black cigars, and incidentally I learned that Mr. H. R. Taylor of golden eagle fame and editor of the defunct *Nidologist* had been in this vicinity collecting annual rents from golden eagle nests, and I also found out where they were but did not visit them owing to a mutual understanding between self-respecting members of the Cooper Ornithological Club that the law is violated when one collector interferes with another's nests, but I decided that the prairie falcon's nest was mine by right of a grant from the lessee of the land four months before Mr. Taylor had visited it. He was shown to it by friends on the 22d to the 24th of March and obtained a set of five fresh eggs.

By evening I had reached my destination and early next morning my host led the way over innumerable and rough trails through well wooded hills. Sycamore, alder, maple, oaks, an occasional laurel and madrone, with considerable underbrush skirted the creeks and dry water courses, while plenty of oaks were scattered about the hillsides together, with much promiscuous brush. One long range of hills was covered with chemise and sage only, rocky and devoid of grass, and and the only trees were small pines. On the south side of the canyon were thickets of manzanita, tough and unbending, the lower branches hard and sharp, a formidable phalanx of spears to break through. After two hours of hard rustling the ridge containing the nest was reached, rugged and rough, covered with manzanita, prickly scrub-oak, sage, and chemise contrarily sending its slender but wiry branches with the downward slope of the hill, contesting our advance on an up grade. Here nature had piled her architecture of sandstone rock. Mimic cities of houses on the hills, pyramids of light-colored sandstone were scattered imposingly among the silvery-green pines, and castles of fantastic shapes rose majestically higher, while round about lay the fragments, large and small, of unfinished or discarded work. Turkey vultures, so many as twenty-seven at one time, were gliding closely overhead seemingly viewing the intrusion into their domain with surprise and distrust. An occasional western redbill appeared in the landscape of oak-dotted grassy knolls against the blue sky. Denizens of the sage, some variety of sparrows, too shy to identify, now and then flitted along. California thrashers (*Toxostoma redivivum*), natural born mockers, sang their matins or furnished melody in various forms, far from view in the chemise and sage, while the harsh scream of the California jay or the cheery springtime call of the red-shafted flicker were carried along the canyon, across which was a battered and broken ledge nowhere over 200 feet high, the home of the prairie falcon. We were now in a dry

arroyo, narrow and rocky in the center of the canyon, and found shady pools of clear cold rain water not yet evaporated from their cisterns of stone. Wending our way along and exploring many grotesque caves with the prints of buzzards, coyotes and wild cats on the sandy floors, constantly alert against surprise by the chance rattlesnake, we came into close quarters with a skunk and disposed of him without any inconvenience to ourselves, and in a large cave wherein we were attracted by a white-throated swift (*Aeronautes melanoleucus*) that had its nest in a cleft in the "ceiling," we tried to mix up with a wild cat that retreated far back to safety in a dark and narrow passage. By a circuitous climb we gained the ledge where the falcon fed. This ledge skirts the top of the canyon for a hundred feet or more and then breaks up into sandstone hummocks and rocky pinnacles, tenanted by the drowsy barn owl and sluggish turkey vulture. The height of the ledge is less than 200 feet at any place and the hill over the nest slopes gently upward and is well covered with chemise, sage, manzanita, suddenly changing to scrub-oak and timber with grass and low growing vegetation. The male took wing off a resting place close to the nest as we were making the circuitous climb, while the female, a very close sitter, closer than any of the duck hawks that have come under my observation, waited until we were almost over her, then darted out on a downward curve with great speed, for almost sixty yards, then rose to a height about twenty-five feet above us and flew to and fro over the canyon in trips about 2000 yards long, just out of gun range, almost constantly emitting a vociferous cackling or screeching. She continued in this manner for the space of half an hour and became more excited and approached closer at my descent to the nest, which was a small cave in the face of the smooth concave surface of the ledge and only eight feet from the top. The male remained flying about farther away and much higher, being much less concerned than his mate, finally alighting upon a dead limb across the canyon and then uttering a few short notes of one syllable, sometimes doubled by quick repetition; a sort of chug with considerable squeak to it. The actions of both birds were much the same as those of the duck hawk upon such occasions, but noticeably less fierce. The cackling or screeching was of about the same duration and in detail but of a different key. The flight of both species is quite similar, being rapid, of short, frequent strokes, producing a gliding motion, and at a distance reminding one of large swifts. Little sailing is indulged in except at considerable elevation at which time it is done in a circular course and within a defined radius.

After adjusting the rope about me, I made the descent but found the nest devoid of eggs so went downward a few feet and stood braced on a narrow foothold while my helper moved the slack rope preparatory to investigating other potholes and clefts, the wind and force of gravity sending quantities of sand down my neck and into my eyes, from the friction of the rope on the soft rocks. I was soon satisfied the bird had deposited no eggs, but was only holding down her claim preparatory to depositing the second set. There was insufficient rope, by sixty feet, to allow me to reach foothold below but my helper hauled me up the last few feet, 150 pounds dead weight, overcoming the friction of the rope besides. He sat, braced on the surface of the sloping hill, with a hole kicked for either heel, and accomplished a feat of main strength that I have no desire to be accessory to again.

The following year found us on this exact spot at 10:15 a. m., April 2, a heavy fog over all, which allowed us to approach within ten feet of the male keeping vigil in a small cave to one side of the nest. He flew towards and past us, creat-

ing a loud noise for a few moments. The female remained on duty until we were directly over the nest. They made but little fuss this time, probably owing to the fog. Upon lying down and looking well over the edge of the ledge, the eggs were seen on the sandy floor of a small pothole. They were five in number and so far advanced that the embryos were covered with down. Incubation must have been at least two weeks, causing this set to be the earliest laid of any in the latitude. Bendire's "Life Histories of North American Birds" records a set taken by Mr. W. E. Bryant on March 25, incubation fresh, some years ago at the place hereinbefore mentioned, at the foot of Mt. Diablo.

In 1900, March 31, we arrived at the ranch house and were told the birds had left the locality because one of the party had passed up the canyon last week and failed to see the birds. This was far from encouraging news after our long trip and it seemed our informant knew what he said, but I surmised he failed to see any birds because the female was a close sitter and the male might have been off on a hunting excursion, and we therefore decided to labor over the steep and winding route once more and not return without investigating more closely than a hunter would. When on the opposite hill, before the ledge appeared to view, we breathed a sigh of relief, for wasn't that the music we were anxious to hear, the notes of a prairie falcon? In a short time we saw the female reconnoitre from the nest-hole and after crossing the canyon and adjusting the rope, soon had five eggs in our possession; incubation fully one week. The male had alighted on a dead snag across the canyon and now and then uttered his "chug" notes, described where he allowed his mate to fly to and fro along the canyon, and once as she flew rather close to him he joined her for a short flight, then resumed his perch and uttered a sort of cackle unlike any I ever heard, neither can I remember it nor describe it after hearing it, except that it varied considerably from the usual sounds.

An advanced or retarded spring apparently cuts no figure with these birds. This year spring was well advanced while nidification was later.

In 1901, March 30, the site was tenanted by a pair of duck hawks, but no eggs were found although we worked the length of the ridge very thoroughly, nor did the birds raise any disturbance, as is the rule. One of them was sitting in the nest-hole when seen across the canyon, and the pair allowed us to approach surprisingly close before taking wing for a resting place further along the ridge, instead of making any sort of demonstration or flying about overhead. They were flushed again but only made a half-hearted fuss. From its superior size and fiercer habits I judged they had driven the prairie falcons into a new precinct, for we were not able to obtain a glimpse of them. It is probable that no pair of duck hawks or even prairie falcons dwell within a few miles of each other's domain owing to mutual antagonism. Once while robbing a duck hawk's nest in a dizzy cliff over a canyon the male had settled on a dead tree half a mile along the ridge leaving the angry female to swoop at us and do all the screeching. She took but little interest in abusing a couple of turkey vultures that came too close, but all at once a prairie falcon chanced across the zone of her short flights and she immediately attacked him, about 250 feet over the side hill. Both birds clinched with their talons, and in each others grip fell straight down like dead weights. Seemingly in an inextricable position they were about to meet with injury or death by contact with the ground below, but when within a few feet of the hill they simultaneously and deftly parted, swinging gracefully aside, the prairie falcon continuing its original course and the duck hawk resuming her swoops and invectives at us, with increased energy.

In 1902 we did not arrive at the prairie falcon nest until April 15, so as to

allow the usurping duck hawks ample time to pay the rent, and found things vice-versa once more. The prairie falcons tenanted the ledge as of old and we were fooled. We took one infertile egg, and the other four were pipped or seamed across preparatory to the shells breaking in twain. What the result will be this year is too early to say, but I expect the rightful owners to be in possession. It is apparent there is one place for a nest among numerous, to us, suitable caves and holes in a given locality that would be selected by any pair of birds in preference to all others, in which, if robbed of the first set, they will deposit the second, perhaps a third set that season, and rarely in a nesting place close by, but I have always known both species to return to the original nest at the beginning of next season.

SUPPLEMENT. On April 3, 1903, we visited the ledge once more having been delayed fully a week by rains rendering the roads unfit for travel. The nest was approached from the north through the brush and sage and so accurately gauged that we arrived in a straight line almost. When close to the precipice the cracking of a dry branch scared the prairie falcon from her nest, about six feet to one side of us. Launching like a dart into the air, with loud cries, she sped like a brown meteor into the sunshine over the crags below, until her initial velocity was allowed to wane, and for a second or two she hung in the landscape slightly below, the master touch to an unsurpassable natural panorama. The five eggs contained small embryos, and by comparison coincide with those of the original bird. Eggs from her average larger than any from other of her species that I have handled.

Later: May 6, the second set of the season was obtained from a similar site in the same ledge about twelve feet from the top. One egg was sterile, the others were slightly incubated.

Bird Life on the Farallone Islands

BY HENRY B. KAEDING

Illustrated from Photographs by the Author

THE Farallone Islands lie about twenty-four miles west of the city of San Francisco and are to be reached from that point by tug or sail-boat. They consist of two main islets about four miles apart. The north islet is inaccessible except in very calm weather and the following notes were taken on the South Farallones only. These South Farallones are two islets lying very close together,—the fact that they are two islets instead of one being due to a narrow cleft that can be spanned by a plank.

On the eastern islet of the South Farallone group is located the Light House Station and the Weather Bureau Station. The light house proper is on the highest point of the eastern end. There are no houses or buildings of any kind on the western islet, the only structure being the tall signal staff on the highest peak.

The party that visited the islands during the first week in June, 1903, comprised, besides the writer, Frank M. Chapman and wife, Mrs. Davenport, Louis A. Fuertes, Dr. T. S. Palmer, and W. Otto Emerson. Leaving San Francisco on the 2nd of June at 10 a. m., we arrived at the island about 2:30 p. m. after a very rough passage. As the little steamer approached the rocks we saw the birds ris-

ing in clouds from their resting places and swinging around us and out to sea, passing others which were en route for the rocks. Tufted puffins, like Gargantuan black swifts, sped like animated bullets to and fro; California murrelets, less partial to flight, terminated their journeys in the water and dotted the waves in every direction; cormorants winged their heavy way from the detached rocks near the main island, the different species readily distinguishable by the characteristic breeding plumages. The odor of sea-fowl and guano filled the air, and from the rookeries came the ceaseless chatter and croaking of thousands of birds.

Photography being the main object in view, after settling our traps we started out to look the rookeries over with a view of picking the best spots for next day's work. We soon placed the different colonies of murrelets, gulls and cormorants, and after securing a few photos, returned to a late supper and bed.

June 3rd found us early at work, and during the forenoon interesting photo-



TUFTED PUFFIN AT MOUTH OF BURROW

graphs were secured, mainly of murrelets, pigeon guillemots, and Cassin auklets. The guillemots were found distributed fairly well over the island, thicker perhaps at the eastern end, where broken rock and detached granite boulders form many ideal nooks and crannies for nesting places. The eggs are two in number and are placed in the crevices of the rocks without any attempt at making a nest. These are striking birds in their sooty black dress, white wing-patches and vivid scarlet bills, eyes and feet. When disturbed by the approach of an intruder they open wide their bills and emit a peculiarly weak but penetrating "whistle." Several long-distance photos were secured but we could not get closer to them than twenty feet, and they were too wary to catch on the nest. With these birds, nesting was just fairly under way, nearly all the burrows holding a full complement of eggs.

The Cassin auklets nest all over the island, wherever a suitable burrow is available. They are more of a burrowing bird than the guillemots, often excavat-

ing their own burrows where there is soil enough, or using a crevice in the rocks if it is small and deep, while the guillemots will use a larger and more exposed crevice under a boulder. The auklets are very plentiful on these islands, less so, however, than on the islands farther south along the Lower California coast, where sandy soil offers every opportunity for them to excavate long and perfect burrows. At this date, June 3, the auklets all had eggs and very few were fresh, incubation being apparently about half completed.

These Cassin auklets are curious little fellows, preferring to do their foraging and courting at night and keeping out of sight during the day. Every night and all night long they keep up a constant talking and calling, flying about in the dark with apparent ease.

At the eastern end of the island is located one of the most curious sights of the place: Murre Cave it is called, and is in fact a great narrow vertical cleft in the cliff, facing seaward and rather difficult of access. It extends into the cliff for



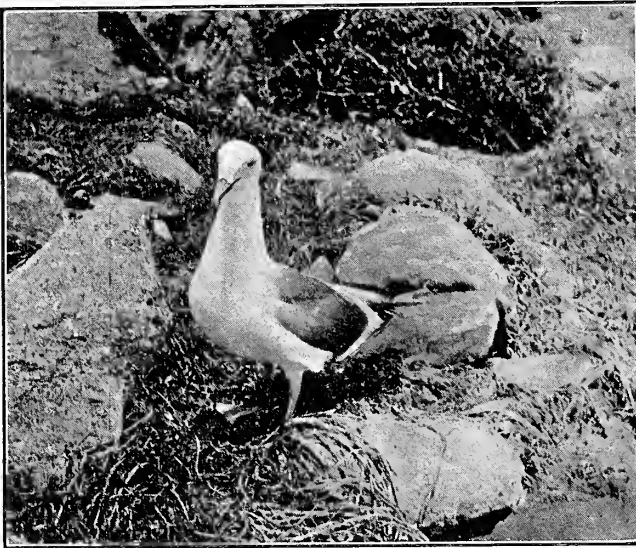
CALIFORNIA MURRE

perhaps 100 feet, and there is a broad ledge or bench about half way in, and the whole place is alive with the murre. They sit close together, breast to back, side to side, till the cave is lined with their snowy breasts and sooty heads. They were uneasy at our approach, but few left till we had been inside for some little time. Then the leaders started, and after them came a stream of murre that kept increasing in volume till the air was full and the mouth of the cave was vomiting a cloud of birds, like smoke pouring out of a chimney. The murre were nesting in other colonies at various places about the island, one great colony being on a rock just off shore on the north side. At this date they had barely started laying. We found only a few eggs, fresh laid, and this was evidently the reason that the birds were shy and easily disturbed. Had we been three weeks later, when all would have been found incubating, we would doubtless have been able to go amongst them without disturbing them very much, as they are fearful of leaving their eggs on account of the robbing of the gulls.

As the day progressed we visited many parts of the island and secured numerous photos.

Rock wrens were plentiful everywhere, their cheery song the only melodious note in the unceasing discord of the feathered multitude. They had their full-fledged young out receiving the first instructions in flight, although a nest was found containing fresh eggs.

The tufted puffins form an interesting part of the bird-life of these lonely little rocks. They are scattered over the whole island, but nest most abundantly in the rocky crevices at the extreme western end. Their nesting burrows, like those of the guillemots, are crevices in the cliffs and cavities under boulders, but they select deeper niches than the guillemots and are quite close sitters, it often being possible to find the bird on the nest. The single white egg is laid on the bottom of the crevice with no attempt at nest construction, and at this date the eggs were partially incubated. Often the mate of the incubating bird will take up its position



WESTERN GULL ENTERING NEST

like a sentinel on the rock close to the entrance of the burrow, and it was possible to approach within a few feet of them and secure a photograph. Dealing with the incubating birds, however, was a matter of difficulty, as their narrow, powerful bill is armed with a cutting edge as sharp as a knife and they are not at all averse to putting it into operation.

Not the least interesting of this colony are the western gulls. Their numbers are decreasing and their nesting colonies are scattered, the largest being on the southwest part of the

island. The nests are built of dried weeds, brown and mottled in color, and the nest and eggs so harmonize with the surroundings that it is difficult to see them readily until almost close enough to step on them. At this date they had eggs, some of the nests not yet with a full complement and others with partially incubated eggs. The birds are wary and not close sitters, due doubtless to the fact that they are subjected to systematic robbing twice a week by the light-house keepers, who make use of their eggs till the murres start to lay, when the gulls get a chance to raise their young and the murres contribute to the daily fare of the men. Perhaps this is retribution, for the gulls themselves are the most arrant robbers among birds. It is no uncommon sight to see a flock of gulls hovering over a nesting colony of murres in an effort to drive them from their eggs, and seizing every egg that is exposed. Should another cause drive the murres from their eggs, the gulls reap a harvest. This is perhaps as potent a factor as any in the destruction of the murres, for while the human eggers took only the fresh eggs, they disturbed the whole colony of murres, and the gulls took everything in sight.

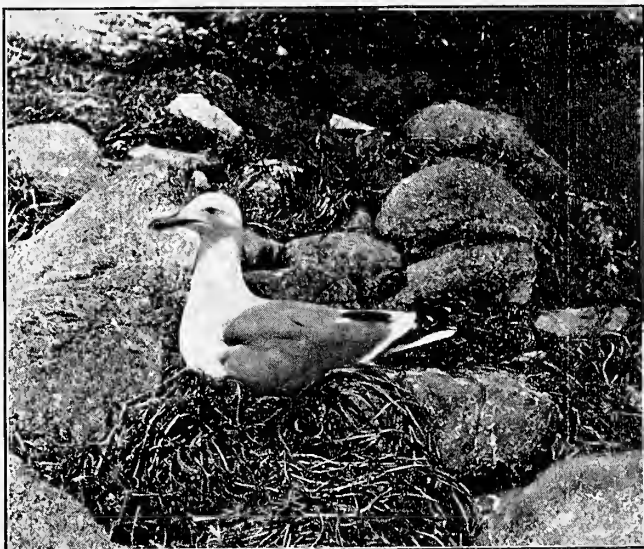
It is the same with young birds, whether they be young murrelets or cormorants—the gulls take all they can get. Mr. Fuertes related a case where he inadvertently disturbed a rookery of several hundred cormorants, and saw the gulls clean out every nest before the cormorants could return.

Photographs of nesting gulls were secured by focusing the camera on the nest and retiring to a distance with a cord attached to the shutter, and patiently awaiting the return of the bird.

Of the cormorants the island supports three breeding species: the Farallone cormorant is the least common, there being only one small colony of these fowl, containing not more than seventy individuals. They are nesting in a sheltered nook nearly at the summit of the island and had young when we were there. We were able to approach them quite close as the old birds were reluctant to leave the young exposed to the gulls or to the fierce rays of the sun, so that we got good photos.

The Baird cormorants nest in small scattered colonies in various places over the whole island, selecting the ledges of the cliffs for nesting sites. They had full sets of eggs at this date and were rather wary, not permitting us to get close enough to photograph them on the nest except at long range. This cormorant is readily distinguished in the nuptial plumage by the conspicuous white flanks.

Brandt cormorants were the most abundant of the three, and were starting to lay at this date. They seem to prefer the detached rocks about the island and covered them in thousands. There is also a large colony on the northwestern slope of the island.



WESTERN GULL ON NEST

Red phalaropes and northern phalaropes were not uncommon in the tide pools along the coast line, and a few black turnstones, wandering tattlers, black oyster-catchers and surf birds were seen along the water's edge.

A single pair of ravens had their nest in a high cliff on the west end, but they were marked by the keepers and shot later, in expiation of their raids on the domestic hen houses.

Last, but quite the contrary of least interesting of this great colony, are the petrels. Two species of these little fellows are known to breed there, but we saw only one. The Leach petrel was found on the Farallones by Mr. Leverett M. Loomis some years ago, but all those that we discovered during our short stay were ash petrels, and they are undoubtedly the only petrel that nest there in any numbers. The stone walls that run here and there over the island shelter in their crevices many a petrel and at this date they had fresh eggs. Many collectors and

the men on the island can locate the petrels in the walls by the characteristic musky odor they give off, but we were not able to do so ourselves, and found the easiest way was to prowl around after dark, when, like the auklets, these diminutive Tubinares are chattering and talking to each other, and to mark the places where the sounds came from. In this way we located several but unfortunately were not able to find one on the egg in such a position that we could photograph it, so that we were obliged to return without a photo of this species.

These petrels, like others of their kind that nest farther south, are nocturnal in their habits during the breeding season, and seem to exchange places shortly after dark, the incoming birds replacing the mate on the nest after an exchange of courtesies and a chat over the day's happenings. These conversations are carried on in a queer little sing-song twitter, regularly punctuated with a gasp that re-



FARALLONE CORMORANTS AND YOUNG

sembles the exhaust of a Lilliputian engine. This twitter is characteristic of all petrels, varying with the species, and has been admirably described by Mr. A. W. Anthony.

When flying about in the dim light the petrels resemble bats. Their flight is fluttering and zig-zag and they frequently flit by the head of the watcher close enough for him to feel the wind of their wings. Often they run into the glass around the big light, or into the telephone wires that stretch from the light-house to the keepers houses and the siren, and terminate their erratic careers then and there. Small, dainty and velvety, they are the prettiest little birds imaginable, and would be perfect were it not for their habit of vomiting oil over everything when disturbed.

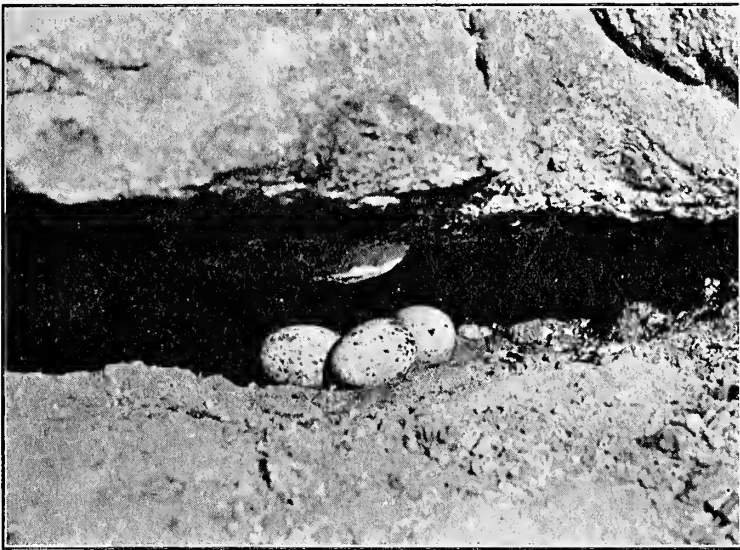
We remained on the Farallones nearly three days, returning to San Francisco June 5, 1903, and although we had all seen sea-bird colonies before, we were

unanimous in saying that the Farallones are unique. There is nothing to compare with them on the Pacific Coast and the eastern members of the party said the same for the Atlantic coast. The thing that impresses the ornithologist most on a first visit to these islands is the number of birds *in evidence*; the great shearwater breeding grounds of the southern islands, the vast auklet and petrel colonies of the same localities, do not impress the observer with the force that the colonies of murre and cormorants on the Farallones do, for they are not in sight. True that in places where the wedge-tailed shearwater (*Puffinus cuneatus*) nest by thousands, the air is at times clouded with birds, yet these is no comparison between this and the Farallones, where the nesting colonies are open and the birds in sight at all times. A trip to the Farallones is a liberal education.

Following is a list of the birds observed in the Farallones:

Phalacrocorax penicillatus (Brandt) Brandt Cormorant.

Phalacrocorax pelagicus resplendens (Aud.) Baird Cormorant.



PIGEON GUILLEMOT'S EGGS IN SITU

Phalacrocorax dilophus albociliatus (Ridgw.) Farallone Cormorant.

Oceanodroma homochroa (Coues) Ashy Petrel.

Larus occidentalis (Aud.) Western Gull.

Lunda cirrhata (Pall.) Tuffed Puffin.

Ptychoramphus aleuticus (Pall.) Cassin Auklet.

Cepphus columba (Pall.) Pigeon Guillemot.

Uria troile californica (Bryant) California Murre.

Heteractitis incanus (Gmel.) Wandering Tattler.

Aphriza virgata (Gmel.) Surf Bird.

Arenaria melanocephala (Vig.) Black Turnstone.

Hæmatopus bachmani (Aud.) Black Oyster-catcher.

Crymophilus fulcarius (Linn.) Red Phalarope.

Phalaropus lobatus (Linn.) Northern Phalarope.

Corvus corax sinuatus (Wagl.) American Raven.

Salpinctes obsoletus (Say) Rock Wren.

A List of Birds Observed in Cochise County, Arizona

BY WILFRED H. OSGOOD

FROM November 1, 1894, to June 1, 1895, I was located in Sulphur Spring Valley, near Willcox, Cochise County, Arizona. During this period of seven months I devoted as much time as could be spared from other duties to making a collection of the birds of the region. The following list is intended to give a condensed record of this work without attempting to detail special notes that were taken on the habits of many species and thus to render accessible whatever may be of interest in connection with the study of geographic distribution, migration, dates of nesting, etc. My headquarters was at the stock ranch of Mr. Thomas Allaire, a cattleman and a cultured gentleman, to whom I am indebted for exceptional courtesies. The Allaire house is situated in a rather dreary place about ten miles south of Willcox; on one side is a dry alkali 'lake' seven miles long and three miles wide and with no vestige of vegetation on its surface; on the other side, toward the east, a scattered growth of low mesquite stretching away for miles presents an outlook a trifle more inviting. About the house and corrals are a few clumps of cottonwoods which attracted wandering flocks of birds on many occasions. The elevation of Sulphur Spring Valley is about 4500 feet, but conditions of considerable aridity prevail and in a general way the fauna and flora is that of a desert region. The only natural water supply in the valley is the small spring called Sulphur Spring about seven miles south of Allaire's ranch. Several groups of low mountains are scattered along the sides of the valley and at either end are more extensive chains, the Graham mountains on the north and the lofty Chiricahuas on the south. Most of my collecting was done within a radius of five miles from Allaire's ranch, but occasional trips were made to Sulphur Springs and to the Dragoon and Chiricahua mountains. In the Dragoon mountains, which are about ten miles southwest of Allaire's ranch, I spent some little time in Cochise canyon and in the Chiricahua mountains, I collected in Hunt Canyon a few miles from the post-office of Rucker. Except where other localities are mentioned, records of specimens or observations apply to Allaire's ranch. Specimens were shot and preserved of all species included in the list, unless otherwise stated.

Anas boschas. Mallard. Common at Sulphur Spring in March.

Nettion carolinensis. Green-wing Teal. Taken at Sulphur Spring.

Querquedula discors. Blue-wing Teal. A pair taken April 13 near Allaire's ranch.

Querquedula cyanoptera. Cinnamon Teal. The most common duck about the mud-holes during the winter; often taken at Sulphur Spring.

Nycticorax nycticorax nævius. Black-crowned Night Heron. One specimen shot in the cottonwoods at the ranch May 14.

Fulica americana. American Coot. A large flock was found at Sulphur Spring in the early part of March.

Gallinago delicata. Wilson Snipe. Taken at Sulphur Spring in March and April.

Numenius sp. Curlew. A curlew was seen near Willcox about November 1.

Ægialitis vocifera. Killdeer. Quite common. A rancher's boy told me that he had found its eggs.

Ægialitis montana. Mountain Plover. Large flocks were seen in December and January.

Callipepla squamata. Scaled Quail. Very common throughout the valley. Females with large eggs in their oviducts were taken May 22. A flock of about sixty came for several weeks morning and night into the corral to drink.

Lophortyx gambeli. Gambel Quail. Seen in the Chiricahua mountains but not found in the Dragoons.

Cyrtonyx montezumæ mearnsi. Mearns Quail. The Mearns quail was not seen by me but was reported from Rucker in the foothills of the Chiricahua mountains and was said to have been abundant about the Dragoons in former years. It is well known to the ranchmen who commonly call it the 'fool quail.'

Meleagris gallopavo merriami. Merriam Turkey. Reported from the foothills of the Chiricahuas.

Zenaidura macroura. Mourning Dove. Very Common. They were our staple article of food in early summer.

Melopelia leucoptera. White-winged Dove. One specimen shot in the cottonwoods at the ranch.

Columbigallina passerina pallescens. Mexican Ground Dove. One seen near Sulphur Spring May 29.

Cathartes aura. Turkey Vulture. Quite common. Always seen soaring about the cliffs of Cochise Stronghold.

Circus hudsonius. Marsh Hawk. Seen at Sulphur Spring.

Accipiter velox. Sharp-shinned Hawk. One taken near the house at Allaire's ranch in early November.

Accipiter cooperi. Cooper Hawk. Not uncommon through the winter.

Buteo borealis calurus. Western Red-tail. Rather rare and not often seen. A pair had a nest a few miles east of the ranch.

Buteo swainsoni. Swainson Hawk. The most common hawk. Nests were found in the mesquites at elevations of from six to fifteen feet. Fresh eggs were taken May 12, 19, 23, 25 and 29.

Archibuteo ferrugineus. Ferruginous Rough-leg. A large hawk thought to be this species was seen once.

Aquila chrysaetos. Golden Eagle. Seen occasionally. One day I rode over a little sandhill and surprised one which was there feeding on a prairie dog.

Falco mexicanus. Prairie Falcon. One was shot near the ranch in November. A pair remained about an old deserted house for several weeks in December and January.

Falco sparverius phalæna. Desert Sparrow Hawk. Not common. Noticed a number on April 11th. Seen occasionally in January.

Asio wilsonianus. Long-eared Owl. One found dead near the house April 11.

Asio accipitrinus. Short-eared Owl. Common at Sulphur Spring in winter. No specimens taken.

Bubo v. pallescens. Western Horned Owl. A large owl made nightly visits to our pigeon boxes and with disastrous effect, but I failed to secure him although I watched for several nights.

Speotyto cunicularia hypogæa. Burrowing Owl. A large colony was located in a dogtown about 200 yards from the house at Allaire's ranch. A few were seen elsewhere in the valley.

Micropallas whitneyi. Elf Owl. One specimen taken in the Dragoons April 14. In brushing against a low bush I started this fellow up. He flew quickly and alighted in a thick bush where I could not see him distinctly. Not knowing what I was shooting, I fired, and was surprised when I picked him up to find an owl.

Geococcyx californianus. Road-runner. Quite common. Nests were often seen in the chollas and mesquites but no eggs were found.

Ceryle alcyon. Belted Kingfisher. One seen May 14, miles from water. It was amusing to watch it hopping about on the ground catching insects.

Dryobates scalaris bairdi. Baird Woodpecker. Common in the Dragoon mountains. Also frequently taken in the mesquite brush in the valley.

Dryobates arizonæ. Arizona Woodpecker. Not uncommon in the Dragoon mountains, but very shy and hard to secure. Female shot April 14 contained large eggs. Found also in the Chiricahuas. Seen rarely in the valley.

Melanerpes formicivorus. Ant-eating Woodpecker. Quite common in the Dragoon mountains.

Colaptes cafer collaris. Red-shafted Flicker. Common about old houses in the valley.

Chordeiles acutipennis texensis. Texan Nighthawk. They arrived about May 25 and were becoming very common June 1 when I left.

Trochilus alexandri. Black-chinned Hummer. Common.

Selasphorus platycercus. Broad-tailed Hummer. Several taken.

Tyrannus verticalis. Arkansas Kingbird. A few were taken. Not so common as the following.

Tyrannus vociferans. Cassin Kingbird. First seen April 4, after which it became common. A nest with fresh eggs was found in a cottonwood tree about thirty feet from the ground May 26.

Myiarchus cinerascens. Ash-throated Flycatcher. First taken April 14, after which it became very common both in the valley and in the Dragoon mountains. No specimens positively referable to the subspecies *nuttingi* were taken.

Sayornis saya (subsp. ?). Say Phœbe. Very common. Every suitable place was tenanted by a pair. Nests were found in sheds, tanks, windmills and old wells. First fresh eggs taken April 11.

Sayornis nigricans. Black Phœbe. One was seen at Sulphur Spring March 16.

Contopus borealis. Olive-sided Flycatcher. The only one seen in the valley was taken near the house at Allaire's ranch May 22.

Contopus richardsoni. Western Wood Pewee. Quite common. Its first appearance was May 17.

Empidonax wrighti. Wright Flycatcher. Fairly common after May 3 when it was first seen.

Pyrocephalus rubineus mexicanus. Vermilion Flycatcher. One remained about the house at Allaire's ranch for several days in the latter part of April. One was taken in the Dragoon mountains May 3. Also seen in the Chiricahua mountains.

Otocoris alpestris subsp. ? Horned Lark. Very abundant; probably exceeding in number all other species. Young birds able to fly were seen May 26. At least three forms of horned larks were taken which when first collected were identified as *pallida*, *arenicola*, and *adusta*, but as the specimens are not accessible at present, I prefer not to publish these names as positive identifications.

Cyanocitta stelleri diademata. Long-crested Jay. Common in the Dragoon and in the Chiricahua mountains. Seen in the valley on one occasion only.

Aphelocoma woodhousei. Woodhouse Jay. Common in the mountains. In the latter part of April several troops of forty or fifty of these birds were seen in the valley.

Aphelocoma s. arizonæ. Arizona Jay. In the Dragoon and the Chiricahua mountains this species was more common than either of the preceding. Several

sets of slightly incubated eggs were taken in the Dragoons April 14. The nests were large coarse affairs placed from ten feet to twenty feet from the ground in white oaks.

Corvus cryptoleucus. White-necked Raven. Abundant all over the valley. First fresh eggs taken May 22.

Molothrus ater obscurus. Dwarf Cowbird. Common about the corrals and cattle-yards. No specimens taken.

Xanthocephalus xanthocephalus. Yellow-headed Blackbird. Seen about the corrals in company with the preceding species.

Agelaius phoeniceus subsp.? Red-winged Blackbird. Often seen at Sulphur Spring. No specimens taken.

Sturnella magna neglecta. Western Meadowlark. Several pairs were generally seen about Sulphur Spring.

Icterus parisorum. Scott Oriole. First seen in the Dragoon mountains April 14. Not seen in the valley. Several specimens taken.

Icterus cucullatus nelsoni. Arizona Hooded Oriole. First arrival was taken in the cottonwoods near Allaire's house April 8. Afterwards it became common.

Scolecophagus cyanocephalus. Brewer Blackbird. Very common; large flocks seen about the corrals.

Icterus bullocki. Bullock Oriole. Very common throughout the mesquite brush in May.

Carpodacus cassinii. Cassin Purple Finch. A young male was taken in the Dragoon mountains in winter.

Carpodacus m. frontalis. House Finch. Abundant. Large flocks frequently stopped for a brief visit in the cottonwoods about the house at Allaire's.

Calcarius ornatus. Chestnut-collared Longspur. In February and March the chestnut-collared longspur was exceedingly abundant. They were seen flying over at all times and at nightfall clouds of them would sweep over the house and on down to the grass at the edge of the alkali lake, whence they straggled out at daybreak.

Rhynchophanes mccowni. McCown Longspur. Found in company with the preceding species but not in quite such large numbers. They were most common at Sulphur Spring where they fairly swarmed. They were last seen April 6 at which time the great majority had already left.

Poæcetes g. confinis. Western Vesper Sparrow. First seen March 16 when one specimen was taken at Sulphur Spring. A few weeks later they were quite common all over the valley.

Ammodramus s. alaudinus. Western Savanna Sparrow. Very common after the middle of January; most numerous about Sulphur Spring.

Chondestes g. strigatus. Western Lark Sparrow. A few were noticed in the cottonwoods at Allaire's April 15. They soon became very common and large flocks were frequently seen in the opens.

Zonotrichia leucophrys. White-crowned Sparrow. A small flock containing several adults and a larger number of hornotines remained about the mesquite in the immediate vicinity of the ranch house during most of my stay. They were never seen more than 100 yards from the house and the country for several miles around was pretty thoroughly worked. When I left on June 1st a few still remained about the house.

Spizella s. arizonæ. Western Chipping Sparrow. Abundant at all points visited. Large flocks were seen in the oaks of the Dragoon mountains.

(To be concluded)

FROM FIELD AND STUDY

The Home of the California Road-runner.—On March 25th, 1903, one of the boys, a student in my Commercial School, told me of a road-runner's nest in Cholla Valley, and after school hours we started out to take a picture of the nest and to take the eggs.



NEST OF ROAD-RUNNER

After a walk of about two miles we arrived at the rustic abode, and found Mrs. *Geococcyx Californianus* at home, but she was somewhat shy and did not wish to have her picture taken, so we had to be satisfied with one of her nest and eggs, which are shown in the accompanying illustration.

The nest was a rather compact one, made of small weeds and twigs, carefully laid and woven among the branches of the "cholla" or "devil cactus" so common in Southern California. The outside diameter was about eleven inches, while the saucer shaped interior was about one and one-half inches in depth and six inches

in diameter. The eggs, four in number, and nearly white, measured 41 mm. in length by 30 mm. in diameter.

This wise little bird has a strange habit of building among the protecting thorns of the devil



YOUNG ROAD-RUNNERS

cactus, among whose thousand sharp points the old bird runs with apparent impunity, while the bristling spines keep out many an enemy and many an inquisitive visitor. In fact the thorny beds of cactus seem to be the favorite resort of the road-runner, and in the spring she may often

be seen leading her little brood of tiny chicks in and out among the almost impenetrable masses of thorns.

The second illustration shows two young road-runners, probably six weeks old, in the nest. This was in a clump of cactus in Upper Chollas Valley, and the little fellows were very patient and considerate, remaining quiet and looking pleasant while the artist went through the necessary preliminaries and made the plate. The one at the left, however, being somewhat shy, hid his head behind his companion just before the exposure was made. To see if the birds remained, because they were unable to run, I stirred them up a little and they hopped off the nest and ran away through the cactus and weeds, looking back occasionally to see if they were being pursued.—F. W. KELSEY, *Prin. San Diego Com'l, College.*

Early Nesting of *Calypte anna* in the Vicinity of Santa Monica, California.—During the season of 1901 I was fortunate enough to locate several sets of Anna hummers in January and February, but not having much time to devote to oology at that time I was compelled to confine my observations to a very small locality near my residence, namely, a grove of eucalyptus trees which was completely surrounded by a hedge of cypress. These latter were the favorite nesting place of the hummers. The whole grove, eucalyptus, cypress and all, only covered an ordinary city block of about 220 yards square.

In walking through this grove on January 21 of that year I noticed two female Anna hummers gathering material for nests and on watching them closely, soon located the nests, both of which were in cypress trees, and just started, one about twelve and the other twenty-three feet high. These nests were carefully watched and on January 30, I collected my earliest set of Anna hummers. The other only contained one egg on this date but a complete set was taken on February 1. On systematically going over and watching this grove I found seven nests in all before the first of March, all of which contained fresh eggs excepting one, and that nearly full fledged young, which, by my reckoning would have been a fresh set about the second week in January.

Locating so many sets in such a small place and so early in the season seemed to me quite unusual and I determined to follow it up the next season and see what the results would be. Circumstances compelled me to give this up in 1902 but the present year found me with plenty of time on my hands. I made my first observation trip on January 1, and I was rewarded by finding two nests just about ready for eggs. One contained a set on January 4, and the other January 8. My observations were not confined to the special grove I have mentioned above but took in several oak and eucalyptus groves within a radius of two miles of Santa Monica.

Between January 1 and February 18 I have found fifty-two nests of Anna hummingbirds and was only out, then, about two hours every third day. The following from my field book shows the result:

Jan. 1, 2 nests noted, both building.
 Jan. 8, 1 nest noted with a fresh set.
 Jan. 18, 1 nest noted with 2 eggs, slightly incubated.
 Jan. 21, 1 nest noted with two eggs perfectly fresh.
 Jan. 23, 1 nest noted with two eggs slightly incubated.
 Jan. 25, 6 nests noted, 4 of which were building and 2 contained fresh sets.
 Feb. 7, 2 nests noted, one contained a set badly incubated and the other fresh.
 Feb. 8, 1 nest noted, which contained young about $\frac{3}{4}$ grown.

They were in trees as follows: 1 in a cotton wood, 1 in a willow, 2 in sumachs, 5 in cypress, 36 in eucalyptus, and were from seventeen inches high, in a sumach, to about thirty feet in a cotton wood.

The above records, I believe, show that the Anna hummingbird is a very early breeder and in fact, it may be stated that they are just as plentiful in the latter part of January and the whole of February as in March, April, May and June. In looking over my notes for the past ten years I find no time where the Anna hummer has been as plentiful as the present season. We may even find that it breeds more abundantly in February than in any other month, or this may be a freak season, which will only be settled by later developments.—W. LEE CHAMBERS.

The Western Marsh Wren in California.—An examination of the marsh wrens in the collections of Mr. Frank S. Daggett and myself discloses the fact that two easily-

Feb. 10, 9 nests noted, 7 of which were building in the different stages and two fresh sets.

Feb. 11, 6 nests noted, one was building. 3 fresh sets, 1 with nearly grown young and one which contained two eggs of which one was broken, evidently by the parent as the nest was deserted and the tree covered with ants.

Feb. 13, 2 nests noted, both with fresh sets.

Feb. 15, 13 nests noted, 4 building and 9 contained fresh or slightly incubated sets.

Feb. 16, 3 nests noted, all with fresh eggs.

Feb. 18, 4 nests noted, 1 building, 1 with a fresh set and two with badly incubated eggs.

distinguished forms occur in southern California west of the Sierras. One is a small dark-colored bird which is the breeding race and remains throughout the year. This answers to the character of the tule wren (*Cistothorus palustris paludicola* Baird). The other is a large, pale bird which occurs only in winter. This accords well with the description of the western marsh wren (*Cistothorus palustris plesius* Oberholser). We have specimens of the latter as follows: Coll. F. S. D., No. 412, Feb. 21, 1896, taken at Long Beach; Nos. 409 and 410, Dec. 26, 1895, and No. 414, Jan. 22, 1896, all three taken at Bixby, Los Angeles County. Coll. J. G., No. 596, Dec. 27, 1895, also taken at Bixby; Nos. 1695 and 1696, Nov. 7, 1896, taken at El Monte, Los Angeles County. These specimens are unmistakable and indicate that at least in the winter of 1895-96 there was a general movement of the Great Basin form westward into the San Diegan district. It seems quite improbable that this was an exceptional state of affairs; for nearly all our marsh wrens, *paludicola* as well as *plesius*, were taken during only those two years. And then, too, one recalls the well-known parallel winter movements of the Say phoebe, mountain blue-bird, sage sparrow, and, as recently discovered, the sage thrasher (see Swarth, *Condor* II, July 1900, p. 89). The western marsh wren has previously been recorded along the eastern boundary of the state, well within the Great Basin, whence Oberholser (*Auk* XIV, April 1897, p. 193) reported specimens from Fort Crook, Death Valley and Eagle Lake, the latter a breeding station. The same writer also mentions Marysville in his locality list, and as this is not starred, it may be taken as another instance of winter emigration westward. Observers west of the Sierras should be on the lookout for this race, as interesting facts in regard to its migration and winter distribution may be forthcoming. As an aid in the determination of specimens, I append the following diagnosis: *Cistothorus palustris plesius* ♂, No. 1696, Coll. J. G.; El Monte, Cal.; Nov. 7, 1896.—Wing 55.5 min. (2.18 inches); tail 55.5 (2.18); culmen 13 (.50); bill from nostril 9.8 (.39); tarsus 20.5 (.80). Ground color of upper parts cinnamon; chest, sides and flanks washed with cinnamon; black markings on wings and tail distinct; black pileum divided by broad cinnamon interval. *Cistothorus palustris paludicola* (♂, No. 4960, Coll. J. G.; Palo Alto, Cal.; Nov. 23, 1901).—Wing 48 min. (1.90 inches); tail 46 (1.81); culmen 12 (.46); bill from nostril 9 (.36); tarsus 18 (.72). Ground color of upper parts Vandyke brown; chest sides and flanks strongly isabella color; black markings on wings and tail fused together; black pileum only washed with brown toward the forehead.

The specimens above described represent rather extreme manifestations of the two specimens. A number of individuals fall variously between. It may be remarked that some San Diegan district birds are paler than others from the San Francisco Bay region, and both sets are somewhat smaller than the stated measurements of Washington skins. Doubtless these differences are significant of geographical variation locally along the Pacific coast. But our material is as yet too scanty to afford conclusive demonstration.—JOSEPH GRINNELL.

More About the Band-tailed Pigeon (*Columba fasciata*).—The interesting article in the January CONDOR by C. S. Sharp on the Band-tailed Pigeon set me to looking up my records and I find a few notes bearing on the subject.

Each winter a few of the pigeons are seen in the canyons on either side of the San Geronio Pass between San Geronio and San Jacinto peaks, and a few pairs remain to nest higher in the mountains. I have seen on both mountains at an altitude of six to eight thousand feet old nests which I took to be those of the pigeon. May 14, 1897, I found on San Jacinto mountain, at about 6500 feet elevation, two nests containing young birds, one in each nest. The first was just hatched and the other half grown. Both nests were in oak trees fifteen to twenty feet from the ground and were discovered only as the old bird fluttered from the nest. The location of each nest was on a horizontal branch in thick part of the tree and rather difficult to find. They were mere platforms of twigs similar to nests of the mourning dove and it is a marvel how the eggs can be kept warm enough to hatch, resting on such an airy structure and at that altitude in springtime.

During the spring of 1901 I saw several pairs on Rabbit Mountain, 7100 feet elevation, east of Hot Springs, Warner Ranch, San Diego County. Several pairs and a flock of seven remained on the mountain till at least June and though I found three old nests, all in oak trees, no new ones were seen.

In Lost Valley about 5000 feet elevation, between Rabbit Mountain and Coyote Creek I saw several pairs and a flock of a dozen or more. They were still there June 12, when I left, but no nests were discovered.

In March, 1901, great flocks of the pigeons poured into San Geronio Pass and fed in the barley fields. For about two weeks there were hundreds of them but they all left as suddenly as they had appeared. Their method of feeding was peculiar. Instead of spreading out they kept together, alternately walking and flying. Those behind would fly a few feet ahead of the advance line, alight, and walk along picking up grain until other rear ones would fly ahead and it came their turn again.

In this way the flock advanced, some in the air all the time and ground was covered quite rapidly. A specimen secured measured 26 inches across the expanded wings and his crop contained 615 grains of barley by actual count. Others had eaten the large-sized acorns, growing in the mountains, the swallowing of which would seem an utter impossibility. The oldest inhabitant of the Pass stated that only twice before in the last fifty years had the pigeons appeared in large numbers.—M. FRENCH GILMAN, *Banning, Cal.*

Correction of Doubtful Records.—Believing the suggestion made by Mr. Joseph Grinnell in THE CONDOR (Vol. IV, No. 1) that all errors in identification are best promptly corrected I have gone carefully over all my published writings and append the following list of doubtful records.

1. *Dendroica occidentalis*—*Osprey*, Vol. III, No. 4. Possibly *D. nigrescens*; no skin taken as the Guardian of Yosemite Valley prohibits the use of firearms. 2. *Oroscoptes montanus*. 3. *Catherpes mexicanus conspersus*—*Osprey*, Vol. V, No. 1. Out of the 43 species recorded from Sur River the two above species are the only ones I find to have been admitted on insufficient evidence. 4. *Tachycineta thalassina*—*Osprey*, Vol. V, No. 8. Skins taken the following year (1902) proved this to be *Tachycineta bicolor*.—MILTON S. RAY.

Wasted Talent.—Upon laying open a cavity in an oak, in which some time previously I had discovered a pair of olivaceous fly-catchers (*Myiarchus l. olivascens*) to be building a nest, I found that the occupants had displayed a taste quite unusual in birds that nest in the dark and out of sight.

The cavity was an ancient one, made originally by woodpeckers. It was much enlarged by the shrinking of the walls, which were seamed and furrowed by cut worms or other agents. The most conspicuous of these depressions were filled in with nest material, mostly feathers, and so well inserted, particularly some coarse feathers, that they were not very easily removed. It was as tho they had been tamped in. All the more conspicuous depressions up to the height of the opening, some five inches above rim of nest were treated thus.

Was the work instigated by that instinct for beautifying their nests displayed by birds that build them where they can be seen by man? It scarcely added to the comfort of the nest, being quite above it, and it stopped the entrance of no light or air.

After removing the material I regretted not having photographed the work.

Afterward, in two other instances, I found the same thing done tho to a less marked degree, so, it seems, it is a characteristic of this interesting bird.

The nest referred to contained four eggs of dimensions as follows: .70 by .55, .70 by .53, .69 by .56, .68 by .54 inches.

The material of which the nest was composed was less than half hair, which forms almost the sole nest material used by its congener *M. cinerascens* and included ravelings of gunnysack, used by the naturalist as bait to discover the nest, cow hair, and rabbit fur, dried grass, bark-fibers and many feathers.—R. D. LUSK, *Tucson, Ariz.*

Minutes of Club Meetings

NORTHERN DIVISION: JULY.—The regular meeting of the Northern Division was held at the residence of the President, Mr. H. R. Taylor, in Alameda, Cal., July 11, 1903, ten members and three visitors being present. Twelve candidates were elected to membership as follows: P. M. Silloway, Lewiston, Mont., Joseph Clemens, Monterey, Cal., Fred M. Dille, Longmont, Colo., Henry Stewart Gane, Santa Barbara, Cal., Mrs. Juliette C. Harding, Antioch, Cal., James S. Cooper, Hayward, Cal., Wm. Frederick Bade, Berkeley, Cal., Miss Ida M. Eshenberg, Santa Barbara, Cal., Herman T. Bohlman, Portland, Ore., H. H. Sheldon, San Francisco, H. H. Bailey, San Francisco, J. S. Hunter, Watsonville, Cal.

Three new names were proposed for membership: Miss Gertrude B. Forrester, Round Mountain, Cal., Foster C. Wright, Los Angeles, Cal., Prof. F. E. L. Beal, Washington, D. C.

The resignation of Mr. Chas. R. Keyes from the office of Secretary of the Cooper Club was read and accepted by unanimous vote of the members present; a vote of thanks and expression of regrets was extended to Mr. Keyes by the Club and the Secretary pro tem instructed to correspond with Mr. Keyes to that effect. Mr. Kaeding was elected secretary of the Club for the unexpired term of Mr. Keyes, resigned.

Mr. Kaeding spoke on the subject of vernacular names of birds vs. the Latin names, and made a motion that in all matter published in THE CONDOR, the vernacular name, when given, be followed by the Latin name of the bird. The motion was carried and the Secretary pro tem was instructed to notify the editor of THE CONDOR to that effect.

Mr. Emerson then spoke at some length on, "The Bird-life on the Farallone Islands," comparing the aspect of the islands as they were in 1887 with the present conditions, and discussing the probable causes of the decrease in certain of the species and the increase in others. Mr. Kaeding made a few remarks on the impressions made by a first visit to these islands. Mr. Cohen spoke on the "Blackbirds of Alameda County," illustrating his remarks with a series of specimens. Prof. F. E. L. Beal spoke briefly on the work being done by the Dep't of Agriculture on the foods of birds and their relation to agriculture and horticulture.

After a recess for refreshment and informal discussion, the meeting adjourned to meet in Palo Alto, September 12.—H. B. KAEDING, Secretary.

THE CONDOR

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EDITORIAL NOTES

Subscribers are requested to note that the address of the BUSINESS OFFICE has been changed, as published in the last issue. Hereafter, subscriptions, dues, requests for sample copies, and advertisements should be forwarded to JOSEPH GRINNELL, PASADENA, CAL. Other communications should be sent, as usual, to the EDITOR at PALO ALTO, CAL.

Now that the time is approaching when the A. O. U. Committee on Bird Protection will assail the legislatures of still unconquered states with its "model bird law," it is perhaps opportune to voice a rapidly growing sentiment against one objectionable feature of this measure.

If we mistake not the A. O. U. Bird Bill provides that everyone who wishes to secure a permit to collect non-game birds (or even to have them in his possession) for scientific purposes must first furnish bond to the amount of \$200, besides paying a fee for the procuring of a permit. In other words if we wish to go over the border from our free state into Oregon, for a week's collecting, we must first spend \$5.00 or so in hard cash and some two weeks in good time negotiating with a Security Company for the bond. Then we are in a position to pay an additional fee for an *annual* permit, which makes it lawful for us to take a few little song sparrows or wren-tits to determine their particular race. Presumably this clause of the bill was introduced in order that the state might have some hold on the recipient of the permit. But if the latter ever transgressed his rights so far as to forfeit his bond, why would he not equally fall under the penalty of the law? As a matter of fact everyone knows that the bonds are a piece of red-tape and that no one issuing them runs a bit of risk. Why then make them a necessity when they serve no useful purpose, and are besides decidedly expensive, particularly to non-residents who may not

have any good natured friends to come forward? In Florida, for instance, it is not lawful for a Surety Company to go on such a bond, so that a visitor may have to do some soliciting before he can lawfully 'ornithologize.'

The particular "zeal" of the A. O. U. Committee on Bird Protection is made up of erstwhile collectors, who, we should think, would have an eye for the interests of their fellow scientists. Almost without exception it is a positive hardship to secure a permit to collect in states where the A. O. U. bill has been accepted, particularly in the case of non-residents.

All the hue and cry for bird protection is well enough in its place, but the better balanced ornithologists are already beginning to ask, "Where is *Ornithology* to come in?" In some states, Vermont for example where only three permits to collect can be in force at once, the matter has been carried to absurd lengths. In Virginia there is no provision for granting permits whatsoever, so that the ornithologists of Washington City must and do continue to collect unlawfully. And Washington is an "Audubonian" center! These two examples among others are mentioned to show that even in bird protection intemperance is possible.

Our objection is not to sane Bird Protection. We do think, however, that it is a little far-fetched when a recognized student of birds must be subjected to delay, annoyance, and highway robbery if he wishes to collect for his own purposes, or for those of the Government. As a prominent bird man recently said: "I would rather see 1000 birds killed through lack of laws, than have one promising Ornithologist discouraged through hardships imposed by arbitrary legislation."

Fortunately our own state is still free, and it is largely to this fact that its exceptional ornithological activity is due. We need a good bird law here, but we of the Cooper Club are not criminals and do not require to be bonded when we seek the festive song sparrow or chickadee.

The A. O. U. Bird Bill with its present un-American and objectionable bond feature is a menace to legitimate ornithological activity, wherever in force: take this feature away and it is a good law.

At the July meeting of the Northern Division it was voted that hereafter in Club publications, more particularly in THE CONDOR, vernacular names when used should be followed by the scientific name, the sense of the resolution being in every case to establish the identity of the bird beyond a doubt. In popular articles where many names occur the Editor would suggest that contributors append a list of species at the end of the article, as in Mr. Kaeding's paper in the present issue. A text cluttered with trinominal profundity is often bombastic quite beyond the remedy of the author.

In a recent examination for an important ornithological position, the following answer was given, by one candidate, to the question, "Define migration." "Migration is the importation of birds and mammals for propagation!"

SEPT., 1903 |

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Volume V

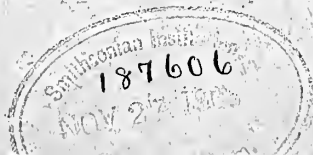
November-December, 1903

Number 6



W.K.F.

COOPER ORNITHOLOGICAL CLUB



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NESTS OF MEXICAN CORMORANTS, LAKE CHAPALA, JALISCO, MEX., DEC. 25, 1902

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume V

November-December, 1903

Number 6

Notes on the Mexican Cormorant

BY E. W. NELSON

AMONG the rugged cliffs and headlands of the Aleutian Islands I first saw cormorants in sufficient numbers to become familiar with their habits. The impression made at this time by the birds and their surroundings was so lasting that ever since their presence in a locality creates a sense of strange wildness that adds a peculiar charm to their haunts. Some of the species, however, live in situations quite different from the rude storm beaten crags overlooking northern seas where so many of them congregate.

The Mexican cormorant (*Phalacrocorax mexicanus*) is one of these dwellers amid milder surroundings. It is a wide ranging species wandering up the Mississippi Valley to southern Illinois and is found thence south to Central America, and even known to Cuba and Watling's Island in the Bahamas. In the intermediate area on the mainland they occur mainly along the coast lagoons from Texas south on the gulf coast, and from southern Sonora on the Pacific side of Mexico. From the lagoons they range up the larger rivers well into the interior. During our work in Mexico Mr. Goldman and I have become most familiar with them in the tropical and subtropical parts of the southwestern section of that country. Although they are found in the coast lagoons north to southern Sonora they are most abundant in these situations from Sinaloa southward. We saw them on the Balsas River and its tributaries in the heart of Michoacan and Guerrero, and they follow the Rio Santiago up through Jalisco to Lake Chapala, at 5000 feet altitude, on the southwestern border of the Mexican tableland.

From the distribution given, it is apparent that this is mainly a fresh or brackish water species in its mainland distribution, and Gundlach states that the few he saw in Cuba were found about fresh water.

Though mainly habitants of fresh and brackish water, to some extent these birds also frequent sea islands. The most notable instance of this kind that has come to my attention is that of Watling's Island in the Bahamas. There, on July 11, 1903, Mr. J. H. Riley of the National Museum found about fifty pairs breeding in the tall mangroves about a salt lagoon. The eggs were mostly hatched at that time and the young were in all stages of growth. Some of them, though not able to fly, had left the nests and were swimming about in the lagoon. The last of April, 1901, while Mr. Goldman and I were cruising around the shore of Yucatan in a small boat we landed for a short time on Contoy Island near Cape Catoche. Here we found many of these cormorants perched in the mangroves bordering some small salt lagoons, in company with white ibises and man-o'-war birds. In the trees were some old cormorant nests, all of which were unoccupied.

Last March we camped on a small river at the bottom of a deep canyon in central Michoacan; this stream runs a tortuous course between high rocky walls



LAKE CHAPALA, JALISCO, MEXICO, SHOWING LARGE BOAT ROOFED WITH RUSHES

and at short intervals breaks into foaming rapids. Our camp was on a narrow sandy flat at the water's edge, under the overhanging branches of some small mahogany and other trees that had secured a foothold in the talus at the foot of a cliff. As we lived here unsheltered except by the foliage, the happenings among the wild life of this solitary place were under constant observation. Among the interesting daily events was the passage up the river each morning of several Mexican cormorants, always flying singly, their glossy black plumage gleaming in the intense sunlight as they turned. They were evidently on their way to some fishing ground higher up, and several hours later—usually about midday—came back following, as in the morning, all the wanderings of the river and giving a touch of completeness to the wild character of the surroundings.

In the summer of 1897 we found them in abundance about the lagoons and streams of the coast country in southern Sinaloa, and especially at some shallow rapids in the Rosario River a few miles above the town of Rosario. During the early part of the rainy season the river was low and at the place mentioned a short descent in the boulder strewn bed of the stream made a stretch, forty or fifty

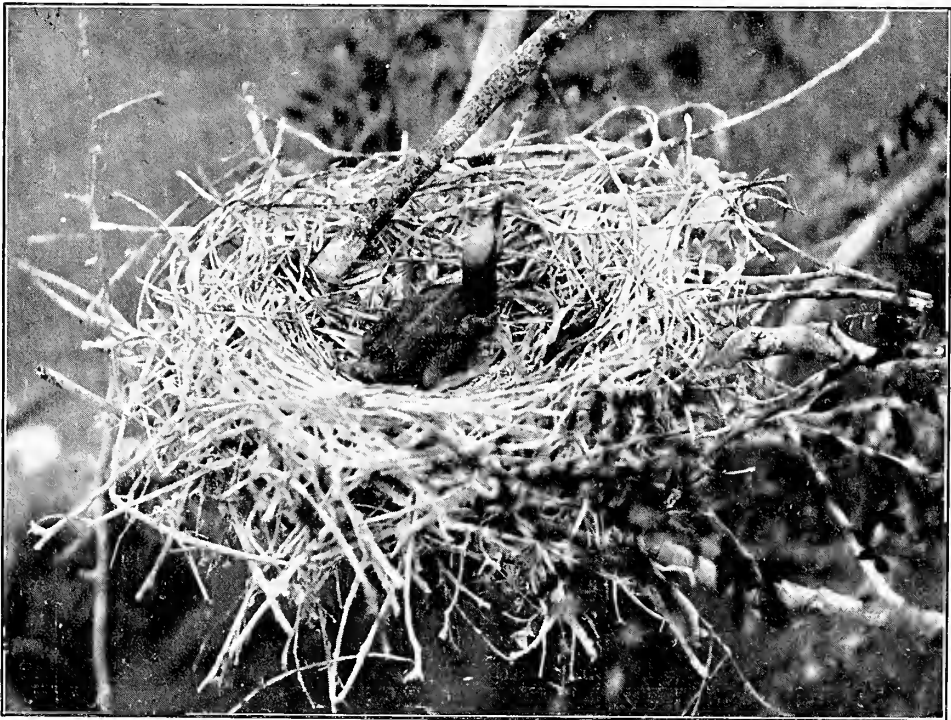
yards long, of brawling rapids. Every morning dozens of cormorants flew up stream to the rapids from the mangrove-bordered lagoons near the coast. They flew low along the water, sometimes singly and sometimes in small parties, usually keeping side by side in a well formed line when two or more were together. For a time most of them perched about on the numerous projecting stones in the river, preening their plumage and sunning themselves; others swam idly in the



NESTS OF MEXICAN CORMORANTS, LAKE CHAPALA

slow current about the rapids. At such times the brilliantly green masses of foliage bordering and often overhanging the water, the swift dark stream broken by jutting rocks on which were the numerous, black, sharply outlined forms of the cormorants, and overhead the crystalline depths of the morning sky of the rainy season made a wonderfully beautiful picture.

When a considerable number of cormorants had congregated they seemed to become suddenly animated by a common purpose and followed one another in swift flight to the foot of the rapids. There most of the assembled birds alighted and formed a line across a considerable section of the river. Then with flapping wings, beating the surface of the water into foam, the black line moved up stream, the birds showing much excitement but keeping their places very well. The surface of the water was churned to spray by the strokes of so many powerful wings and feet, yet in the midst of the apparent confusion the birds could be seen darting to one side or the other, or spurting a few feet ahead of the line, and sometimes disappearing for a moment below the surface but nearly always securing a fish. When they reached the head of the rapids the birds flew heavily to their perching stones or swam slowly up the quiet surface of the river. After a short rest the



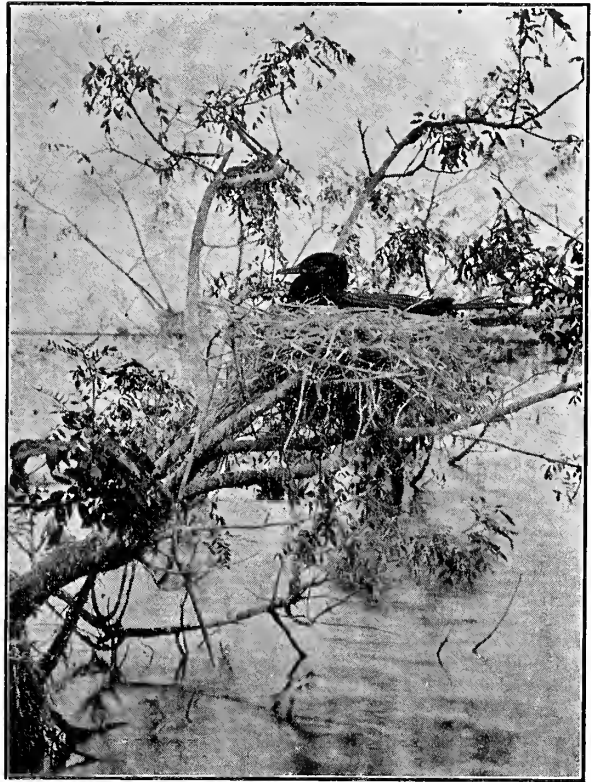
YOUNG MEXICAN CORMORANT, LAKE CHAPALA, JAN. 5, 1903

line would reform and again beat up the rapids and this was repeated until the birds had satisfied their hunger.

The cormorants evidently fully appreciated the advantages of thus working in company, so that a fish trying to escape from one bird would almost certainly become the prey of another. The purpose of beating the surface of the water with their wings was evidently in order to alarm and confuse the fish so that they would dart blindly about and become more easily captured. I have seen parties of gannets doing the same thing in the midst of schools of fishes off the Tres Marias Islands.

When the cormorants were gorged they deserted the fishing ground for the day and streamed back down the river to the lagoons where they perched motionless for hours in large mangroves or other trees along the edge of the water.

The west coast lagoons are long lake-like bodies of brackish water varying greatly in size and proportion but nearly always fringed by a more or less dense growth of mangroves. These are low, rarely rising over twenty-five or thirty feet, and as the leafage begins at the water's edge they present a solid wall of dark green, back of which often rises the larger growth of scattered forests. Here and there among the mangroves occur dead and weathered trees, or lacking these, wide branching living trees which project over the water. These are favorite congregating places for the Mexican cormorants which, with their somewhat grotesque outlines, form a conspicuous figure of the bird life in such localities. These birds are not considered game by the Mexicans and this combined with the high price of ammunition, is sufficient to protect them from wanton killing so that they are not often disturbed and will permit a canoe to approach within easy gunshot before they clumsily take flight. They are heavy-bodied and awkward and frequently fall from the perch into the water and try to escape by swimming in preference to flight. When driven to take wing from such a perch they commonly make a broad circuit and returning pass near the canoe and turn their heads in evident curiosity to examine the cause of the alarm. Their flight like that of other cormorants is steady and rather labored, and as they circle about an intruder they often glide for some distance on outspread wings, turning their long outstretched necks toward the object of their curiosity and presenting almost as grotesque an appearance as the snake-bird.



MEXICAN CORMORANT ON NEST, LAKE CHAPALA

Although the cormorant had been familiar to me for a number of years, it was not until recently that I had the chance to learn anything of its breeding habits—and this to my surprise occurred on Christmas day, apparently a most unpropitious season to go bird nesting, even in the tropics, on this side of the Equator. On December 23, 1902, Mr. Goldman and I reached Ocotlan, Jalisco, a small town located on the Santiago River close to the point where it flows out of the northeastern corner of Lake Chapala. This lake, the largest body of fresh water in Mexico, is on the southwestern border of the tableland at an elevation of 5000 feet above the sea. In its greatest dimensions it measures about twenty by sixty miles. Its main tributary, the Lerma river, flows through extensive marshes into the eastern end of

the lake only a few miles from the outlet of the lake into the Santiago; the two sections of what is really the same stream thus, after Spanish fashion, bearing distinct names.

Our object in visiting this point was to learn as much as possible about the water-fowl which winter abundantly in the marshes bordering the east end of the lake and along the lower Lerma.

By invitation of an American in charge of a plantation near Ocotlan we embarked on Christmas day with our host and his wife in one of the large sail boats used for the commerce between the towns on the lake, for a trip to the mouth of the Lerma on a hunt for geese and ducks. The boat was large and apparently built on the model of a flat-iron with a thatched roof of rushes over the stern, and with such high sides that one could walk comfortably about on the flat bottom or climb up to the bow where a decked space covering the forward third of the boat gave a place where one could lie and watch the picturesque views furnished by the mountains which enclose the lake on nearly all sides. A large square sail caught the light breeze and drew us slowly away from shore and for some time I strained my eyes to but little purpose for signs of bird life. In the afternoon we reached the shore near the mouth of the Lerma and saw several species of herons and ducks about patches of rushes, and many cormorants were flying in pairs or in small parties drawn out in line and at a distance not easily distinguishable from geese. The cormorants were all headed toward a common point in the shallow part of the lake, beyond the mouth of the river, which our native boatmen assured us was their roosting place. The winter climate is delightful in this region and as Christmas night closed down we sat on the deck, while we drifted slowly along near the reedy shore, and watched the most brilliant display of stars come out as the rich afterglow faded away. In the intense blackness of the shoreline the cheerful twinkling of lights here and there marked the locations of villages and followed the tolling of the vesper bells that came to us, mellowed by distance, at twilight. There were no signs of the expected geese but from time to time the voices of other waterfowl arose on the adjacent marsh, exciting pleasant anticipations for the coming day. With some reluctance we left the beauties of the night and sought our blankets. Just as we were drifting into forgetfulness a medley of clanging notes awoke us and we heard a flock of white-fronted geese (*Anser gambeli*) settle near us in a pond on shore.

The next morning several flocks of geese left the ponds in the vicinity soon after daybreak and a large number of cormorants dispersed from the part of the lake where they had gathered the evening before. All day until the middle of the afternoon we poled about in the shallows at this end of the lake among patches of reeds and marsh grass with stretches of open water between and were very successful in securing numerous species of waterfowl. In the afternoon a long line of whitened bushes growing in the open water some distance away was pointed out by our host who said he had passed there a short time before and found a lot of cormorants nesting in them. I could scarcely credit this but the whitened appearance of the bushes showed that the birds used the place as a roost at least and I decided to investigate. As we poled near enough we saw that the bushes, or small trees which projected twelve or fifteen feet from the water were full of cormorants and many could be seen standing on nests. We stopped the boat when within one hundred yards and after removing our clothing slid cautiously overboard into from three to four feet of water. Camera in hand Goldman and I stalked the birds to within about forty yards and secured a few exposures. The

bushes extended in a narrow belt for about two hundred yards in the otherwise open water and in them were perched between two to three hundred birds. At our first stop the outstretched necks and changing position of some of the birds gave evidence of their uneasiness and as we waded still nearer most of them flew clumsily down into the open water. After moving out a hundred yards beyond the line of bushes they formed a black line on the water where they remained as long as we stayed in the vicinity. When the birds became alarmed at our approach they began a curious guttural grunting which came in a low continuous chorus from those left in the bushes as well as those in the water. These notes sounded much like the low grunting of a lot of small pigs while feeding. As we waded among the bushes the birds which had remained by their nests pitched off into the water one after the other and swam out to join the main flock; or took wing, and after a short detour, came circling close overhead, uttering at short intervals their guttural notes of alarm or protest.

The nests were strong platforms placed on forking branches and measured about fifteen inches across and four to six inches deep with a shallow depression in the top. They were composed entirely of small sticks compactly arranged as is shown in detail in the accompanying photographs. From one to half a dozen nests were placed in a bush and we planted our tripods in the muddy bottom and standing nearly waist-deep in the water secured good pictures before calling up the boat and getting abroad. As the bushes were scattered we had no trouble in poling about and examining the nests at leisure. Most of them were just completed and contained no eggs. Quite a number had a single egg and in a few cases two eggs were found. A series of eighteen eggs were taken. They are rather small for the size of the bird and have a pale green ground color overlaid with the usual chalky white deposit which gives them a greenish white shade.

Three eggs representing the extremes of variation out of this series measure respectively (in millimeters) 55.4 by 33.2; 52.2 by 41.6 and 53 by 34.3.

After finishing our inspection of the nests we returned to the large boat so late that the day breeze failed and left us drifting about the lake all night and prevented our reaching town until late the following day.

On January 5, 1903, we made another visit to this nesting place and with the exception of a single young bird recently hatched the nests of the entire colony were absolutely empty, so it was evident that the place had been deserted as the result of our former visit. Instead of between 200 and 300 birds which we saw on our first visit not more than fifty were seen this time.

The water in the lake and river was unusually low this season which may account for the presence of this unexpected colony, for the native fishermen agreed in saying that these birds only nest in some trees far up the lake shore, and sometimes in large willows along the marshy borders of the Lerma near its outlet in the lake. However that may be, it was a stroke of good Christmas luck that we made this find since the nesting habits of this species appear to be practically unknown so far as I have found in published accounts of the species.

On the Use of Sentinels by Valley Quail

BY JOHN J. WILLIAMS

BEFORE taking up the discussion of this question "Do valley quail use sentinels?" I wish to say that although I am seriously inclined to think that quail do use sentinels, yet further observations by others may throw a different light on the subject, so that under these circumstances I prefer to leave the question open.

Should any one feel like taking up the study of birds, his ardor is usually dampened at the outset somewhat by the large amount of time and patience it requires to do so. But should any one be inclined to study valley quail (*Lophortyx c. vallicolus*) in particular, after the first attempt there is very little inclination left to do so. Out of all of our common birds they are the most easily frightened, "Eternal Vigilance" evidently being their motto, but of all our common birds they are perhaps the most interesting, especially in their habits. The rustling of a dog, the snapping of a twig, or the distant report of a gun, serves equally well to put them on guard or start

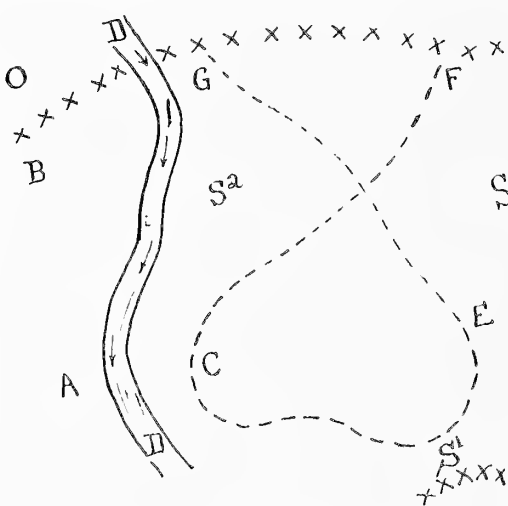
Even the wavering leaf has caused me into the nearest all that a detailed of valley quail will time put on it.

intention of fath- and (to me) un- of these birds, that spring of 1901 for in the foothills of There I felt sure quail, and in fact retreat for the of birds. As a follows is depend-

ough knowledge of the location, I have given in the sketch a general idea of the spot. BF represents the brush fence cut in two by a wide irrigation ditch, DD. At A on the lower bank of the ditch, among some shrubbery screening me from view partially, I chose my hiding place, getting into as good and comfortable a position as possible, for once I got settled I knew it was for an hour or more and half of that time I would have to be absolutely motionless. No note book was needed, and all the notes I took would have to be taken in my head, for a true valley quail dislikes the publicity of a written interview and despises reporters.

Soon from the hillside above the brush fence, I heard their call notes, coming nearer and nearer and answered from different points on the hillside, indicating that the clan was gathering for its feed in the old apple orchard at O in the sketch. Suddenly after some little quietness one of them appeared at F and ran rapidly to the point marked S where he flew up onto the lowest branch of a dead peach tree.

I began to get interested and put the glass on him, although he was only about ninety feet from me. He was thoroughly alert and business-like and was scrutinizing his surroundings as minutely as a nuthatch would the bark of a tree.



After a few minutes of the closest inspection, he repeated the note "cuh" several times slowly in a low guttural tone, perhaps to tell his mates that the coast was clear. Nothing in his actions had appeared to me extraordinary, as I have frequently seen one lone quail perched in full view, when I have been hunting.

Soon after he had uttered the low notes, I noticed several quail coming out from the brush fence at different points near where the first one had, but the most noticeable thing about their advent was that they were perfectly fearless, slowly walking around picking up gravel or eating grass and clover leaves. Some were even fluffing out their feathers or scratching their heads with their claws, while two lazy ones rolled over on their sides and had a dust bath. None of them were alert and to see them there an observer would believe that hawks and men never existed to torment them. Gradually they kept on coming through the brush fence until I counted thirty-seven in the bunch.

All this time the lone bird at S had remained intensely alert but silent; not even the rippling conversational notes of his mates (which sound so much like the gurgling of a tiny stream in its rocky bed) had disconcerted him. With my glass I could see his brown eye roving everywhere, now up, now down, never apparently longing for the clover his mates were eating but always watchful. The contrast between this lone bird so alert and his fellows close by, free and light-hearted, as if they were out on a vacation, was a puzzle to me.

Slowly the bunch moved forward in the direction of the dotted line in the sketch, now widely separated only to gather closer together a little farther on, all the time with most of their plumed heads bent low among the clover roots, seeking their favorite dainties the clover seeds, while now and then a few would linger behind, taking a bath in the warm dust.

Overhead a few fleecy clouds drifted lazily across the sky, and occasionally the lightest breeze shook out the crimson tassels of the budding oaks, or passed silently across the swirling waters of the ditch. All the world seemed at peace. Numerous insects droned in harmony from everywhere and the quail still moved along.

When they reached the point C in the sketch, one of their number ran to the point marked S and perched himself on the top of a large pile of brush at that point. This was done silently and without any note or call from the lone bird or from any of the feeding birds, only the low murmuring notes of the flock breaking the silence, as they slowly followed along the course indicated by the dotted line in the sketch. After a few minutes the quail in the dead peach tree quietly joined his mates on the ground, while the bird on the brush pile remained alert and almost motionless.

Probably a quarter of an hour had elapsed between the appearance of the first and second watchful birds at their post. At the point C the flock was only twenty-three feet from me by actual measurement, the ditch intervening between us. From this point they slowly worked up the hillside through a lot of tall dead weeds, close to the brush pile at S.

Far off on the edge of the woods the resonant drumming of a woodpecker came to me faintly, while the scream of a quarrelsome blue jay caused the lone quail to move his head quickly in that direction.

About this point the birds curved their course back towards the brush fence and I began to wonder whether some other bird would repeat the previous peculiar actions, which by this time began to have an appearance of design and not mere chance, but no such thing occurred and the bunch moved forward quietly for some few minutes until they came to the point marked E in the sketch, where

a single bird separated quietly from the flock, and running to the foot of a fence post at S² reached the top by a short flight. At this point of my observations I became very much interested, anxiously waiting for the lone bird at S¹ to rejoin the flock, as proof of my theory that the whole performance was prearranged and intentional, and not of an accidental nature, and after a minute or so the bird quietly did so.

To say the least I was delighted, for here was something worth following up. That these birds were schemers, I had had to previously acknowledge after many a hard day's unsuccessful tramp after them, but to find out that that they had a well organized system of protecting themselves while feeding out in open ground was an eye-opener.

From E they followed the dotted course, crossing their original line of travel and moving slowly, finally disappeared into the brush fence at G on their way to the old apple orchard. After some little time the lone quail at S² also left his post and was lost to sight with the rest of the bunch.

My initial interview with the valley quail in their own homes had proved successful beyond my expectations and I had been able to keep close track of all their movements and that too when they were some distance from any shelter.

Such ideal conditions for observation and study do not always occur and the wonder was that there was not some kind of an interruption.

That the facts of the case were just as stated and not mere guess work on my part, I have proved several times since then, sometimes by accidental observations and sometimes by a good deal of perseverance, and only as recently as January 25th, of this year, I watched a flock of valley quail slowly pass through a small orange orchard up in one of the Santa Barbara canyons, in their course crossing a country wagon road in perfect unconcern, while a lone quail on the top of a fencepost "sentined" the procession from his position.

These tactics are adopted only when the flock wishes to feed or pass through some more or less open piece of ground, I believe, for although I have watched them repeatedly when they were in the timber, I have never yet seen them put out a sentry.

The most frequent instances in which I have noticed this sentineling has been when they were feeding or dusting themselves along a much used road, for in other cases where cover is close at hand they seem to rely on it more, but during the mating season I have had female quail come within ten and once within five feet of me, fearlessly looking under or into old logs or brush heaps for a possible nesting place, while the male bird perched on an uprooted stump or log and kept the keenest kind of a gaze on me, from his position thirty or more feet away from me.

Under such conditions of observation the observer must become like the stone or tree against which he rests motionless, and this is why I said in the first place that a student of valley quail must put up with a great deal, but in the end he is amply repaid for the time and trouble he has been put to.

Whether the male bird alone acts as sentinel I am unable to say, and leave it to future study, but hereafter when you see one quail perched alone and in full view, you can be sure that in most cases the flock is close by, so don't shoot him because he is such an easy mark.

In regard to this habit seen in other kinds of game birds, I have no knowledge, but although I have studied our mountain quail (*Oreortyx p. plumiferus*) a great deal, I have never come across anything that would indicate the occurrence of this habit in the species.

A List of Birds Observed in Cochise County, Arizona

BY WILFRED H. OSGOOD

(Concluded)

Spizella breweri. Brewer Sparrow. Found in company with the preceding species but in fewer numbers.

Junco hyemalis. Slate-colored Junco. One specimen was shot in the corral Dec. 30, being the only Junco seen in the valley. On February 3, in the Dragoon mountains I took another with sides slightly pinkish.

Junco mearnsi. Pink-sided Junco. Common in winter in all the mountainous country.

Junco connectens. Shufeldt Junco. Abundant. Flocks of several species were always seen in the Dragoons in winter.

Junco caniceps. Gray-headed Junco. Found with the preceding but not quite so common.

Amphispiza bilineata. Black-throated Sparrow. First taken April 28 after which it rapidly became the most common bird of the mesquite district. I found a half-dozen of their nests containing sets of three eggs each May 20. Nests were placed in small mesquites from 4 to 20 inches from the ground.

Amphispiza belli nevadensis. Sage Sparrow. The sage sparrow was very common during the winter months. Seen in flocks about the leafless mesquites till about the middle of March when it was replaced by *Amphispiza bilineata*.

Aimophila ruficeps scotti. Boucard Sparrow. One was seen April 18. I stood within six feet of it as it skipped through a mesquite but I had no gun and could not secure it.

Melospiza melodia montana. Mountain Song Sparrow. One taken at Sulphur Spring March 16.

Melospiza lincolni. Lincoln Finch. One taken at Sulphur Spring March 16. No others were seen.

Pipilo maculatus megalonyx. Spurred Towhee. A fairly common resident in the Dragoon and Chiricahua mountains.

Pipilo fuscus mesoleucus. Canyon Towhee. Common in the mountains. Eggs far advanced in incubation were found May 1.

Oreospiza chlorura. Green-tailed Towhee. Very common in the Dragoon mountains about May 1. Seen also in the valley where the first specimen was taken April 23.

Zamelodia melanocephala. Black-headed Grosbeak. A few stopped in the cottonwoods May 18 and others were seen in the Dragoon mountains later.

Guiraca caerulea lazula. Western Blue Grosbeak. Seen only in the Chiricahua mountains.

Calamospiza melanocorys. Lark Bunting. Several flocks wandered about the valley and occasionally appeared about the ranch where I secured a number of specimens.

Piranga ludoviciana. Western Tanager. First taken May 18; afterwards seen sparingly among the mesquites near the house at Allaire's.

Piranga hepatica. Hepatic Tanager. Taken in the Dragoon mountains May 4.

Piranga rubra cooperi. Cooper Tanager. A young male taken May 18 was the only one seen.

Tachycineta bicolor. White-bellied Swallow. Found in numbers in the Dragoon mountains May 4. No specimens taken.

Stelgidopteryx serripennis. Rough-winged Swallow. Several swallows supposed to be this species were seen April 8.

Lanius ludovicianus excubitorides. White-rumped Shrike. Abundant; frequently seen perched on the topmost twig of a mesquite. Several sets of five eggs were taken in April from nests a few feet above the ground in mesquite and catclaw bushes.

Vireo gilvus. Warbling Vireo. Quite common after May 3 when the first was taken.

Helminthophila celata lutescens. Lutescent Warbler. One taken in the Dragoon mountains May 4.

Dendroica auduboni. Audubon Warbler. Seen occasionally through the winter and spring. Several were taken.

Dendroica nigrescens. Black-throated Gray-Warbler. Several were seen in the cottonwoods near the ranch, April 15. Later they were seen in the brush and May 4 a number were taken in the Dragoon mountains.

Dendroica townsendi. Townsend Warbler. Five specimens were taken in the Dragoon mountains May 4.

Dendroica occidentalis. Hermit Warbler. Taken in the Dragoon mountains May 4.

Geothlypis tolmiei. MacGillivray Warbler. Taken near the house at Allaire's May 3. Later it became common in the brush and in the Dragoon mountains where several were taken.

Geothlypis trichas occidentalis. Western Yellowthroat. One taken March 16, occasionally seen later.

Wilsonia pusilla pileolata. Pileolated Warbler. Seen in the cottonwoods near the house April 15. Later it became the most common warbler.

Anthus pensilvanicus. American Pipit. One was taken at Sulphur Spring March 16 and on my next visit, March 23, quite a number were seen.

Oroscoptes montanus. Sage Thrasher. The sage thrasher was not uncommon through the month of April but previous to that time it was rarely seen.

Mimus polyglottos leucopterus. Mockingbird. The song of the mockingbird was first heard on the morning of April 15. From that time on it was a source of constant pleasure.

Toxostoma bendirei. Bendire Thrasher. One taken April 8 and one April 17 were the only specimens seen.

Toxostoma crissale. Crissal Thrasher. Quite common. I found a nest April 3 containing two rotten eggs, at which I was surprised, as I had thought it too early for eggs. Three days later on the 6th, however, I shot a young bird just able to fly which confirmed the suspicions aroused on the 3d. Fresh eggs were taken after this, April 8, 11, 15 and 20.

Heleodytes brunneicapillus. Cactus Wren. A pair reared a brood of young in a nest placed in a hole in the corner of an old house. These were the only cactus wrens seen though quite a number of their conspicuous nests were noticed in the chollas and mesquites.

Salpinctes obsoletus. Rock Wren. A single specimen was taken near the house at Allaire's April 23, being the only one seen in the valley. In the Dragoon mountains, they were abundant in suitable places.

Thryomanes bewicki bairdi. Baird Wren. Quite common.

Troglodytes aedon aztecus. Western House Wren. Rather rare; a few were seen but none taken.

Cistothorus palustris plesius. Western Marsh Wren. Taken at Sulphur Spring March 16 at which time they were abundant.

Sitta carolinensis aculeata. Slender-billed Nuthatch. Abundant in the the mountains, but none seen in the valley.

Parus wollweberi. Bridled Titmouse. Common resident in the mountains where they frequent the oak woods. Many were taken in the Dragoon and Chiricahua mountains.

Psaltriparus plumbeus. Lead-colored Tit. Very common in the Dragoon mountains where it was generally seen with the preceding species.

Regulus sp. Kinglet. A few females were seen in the Dragoon and Chiricahua mountains.

Polioptila cærulea obscura. Western Gnatcatcher. First seen March 17; occasionally met with later.

Myadestes townsendi. Townsend Solitaire. Found in the Dragoon mountains in winter.

Hylocichla guttata auduboni. Audubon Hermit Thrush. One was taken in the Dragoon mountains April 14. A few others were seen on the same date.

Merula migratoria propinqua. Western Robin. Common in the Dragoon mountains.

Sialia mexicana bairdi. Chestnut-backed Bluebird. Common but less so than the following species, with which it was associated.

Sialia arctica. Mountain Bluebird. In winter large flocks were seen in the mountains and occasionally in the valley.

Notes on the Texan Jay

BY HOWARD LACEY

ON buying a small ranch in Kerr county, Texas, in the summer of 1882, and stocking it with a few cows and other domestic animals, I began to spend my spare time in studying the habits of the wild creatures that I met, and at first gave nearly all my attention to the birds of the neighborhood. Not finding anyone else who took much interest in such things, I bought Coues' Key to North American Birds, and with this and a shot gun I by degrees learned the names of most of the birds that I saw as I rode about the range. I dislike having to use the gun, so I made a point of making a rough skin (a very rough one indeed at first) of everything that I shot and could not identify.

In 1893 I was fortunate enough to make the acquaintance of the "professor" who was then living in San Antonio, with whom I have since taken many pleasant little excursions, and between us we got to be on familiar terms with most of our bird neighbors. One of the birds that I could not place was our common jay, now known as the Texan jay (*Aphelocoma texana*).

In December, 1894, when deer hunting on the head of the Nueces river, I shot and skinned one of these birds and sent it to the professor. He sent it on, I believe, to the late Captain Bendire, and it is now the type of the species. In

March, 1896, I heard that the jays were nesting on the ranch of a friend about sixteen miles north of my place, so I rode over there and on March 29th and 30th found several nests and took four or five sets of eggs. These were carefully packed in an old cigar box and stowed away in one of the saddle pockets, but unfortunately as I was taking a rest and a lunch on my way home, the horse shook himself and of course the saddle also, with the result that most of the eggs were broken.

In 1898 the professor arranged to visit this same ranch with me, and on April 4th we started in an old buckboard and had a fairly successful trip, getting some good specimens of the birds and several clutches of eggs. The ranch is situated at the head of one of the main branches of the Guadalupe and takes in some of the divide between that river and the Llano. As in other parts of the county the limestone rocks are in evidence everywhere. Numerous little valleys run down toward the rivers, becoming deeper and steeper as they approach the larger creek, and often forming narrow canyons with high bluffs on both sides. Large trees are not numerous, but the whole face of the country is covered with clumps of shin oak and scrubby live oak. In these clumps we found the jays' nests, generally placed near the outside of a thicket, at from four to six feet from the ground, and often conspicuous from quite a distance, as the shrubs were only beginning to put out their leaves at that time. As a rule the birds were setting and one nest contained young nearly ready to leave it. The nests were composed of an outer basket of twigs not very firmly put together, and lined rather neatly with grass, hair, and small root fibres. They were rather more bulky than mockingbirds' nests and the inner nest was saucer shaped rather than cup shaped. Most of them were placed in the shin oaks, but some few were in live oaks, and I have since found several in cedar bushes. The birds are not so noisy as the common blue jay and are particularly silent when near their nests. They have a habit of hopping upwards through a thicket from twig to twig until they arrive at the top of it, when they fly off with four or five harsh squeaks to the next clump of brush, into which they dive headlong. It was a very warm day with the thermometer in the shade of the gallery at the ranch standing well up in the nineties, and tramping about through the thickets and picking our way over the rocks was by no means light work, but the walk was so interesting that we did not have time to think of getting tired. Of course we found much to interest us besides the jays. An untidy platform of sticks in a small Spanish oak tree, proved on investigation to be a road-runner's nest, containing six eggs, which from their unusually clear appearance, were probably all of them fresh. One frequently finds eggs in different stages of incubation in a road-runner's nest and sometimes eggs and young birds or young birds of different sizes.

Several times we disturbed deer. They were in their fresh summer suits of red, having already discarded their gray winter overcoats. As is so often the case when one is not hunting them, they would stop to take a second look at us, offering pretty broadside shots at fifty or sixty paces. In one extra dense thicket at the head of a rough little hollow we found a pair of long-eared owls (*Asio wilsonianus*) the first we had ever seen in the county; and on a rocky ridge just beyond were a couple of burrowing owls. They flew a few yards and then settled on some rocks, nodding their heads at us in their usual ludicrous fashion. These owls do not breed in this county, but we see them every year in the spring and autumn. There are no prairie dog towns on this side of the Llano river, but plenty of them just across it and I have been told that the owls breed over there.

Many small flocks of migrating birds were seen, some of them just arriving for the summer and others getting ready to leave us. Conspicuous among the

latter were the crown sparrows and lark buntings, the male buntings already about half clothed in their striking summer plumage.

Large trees were rather scarce on the divide and were not very large there except by comparison. They were principally isolated live oaks or black-jacks and most of them contained nests of the red-tailed hawk, usually old and deserted, but the new ones already contained either eggs or young birds. Of course all the hollow trees we saw had to be closely inspected and in one old stump we found a large pole cat peacefully taking his siesta. We had a good look at him but were very careful not to disturb his slumbers. He belonged to the white-backed, bare-nosed species and appeared to be very fat, also, fortunately for us, very sleepy.

In the winter the Texan jays are generally in small parties of four or five individuals, family parties probably. In the winter of 1896-1897 when large numbers of the common eastern blue jay (*Cyanocitta cristata*) visited us, and it was not uncommon to see flocks of from fifty to one hundred of them, our native jays did not mix with them but wandered about in their usual small flocks. These flocks, however, were far more numerous than they have ever been since. Probably a heavy crop of shin oak acorns in this neighborhood and a failure of the mast in other places, attracted the birds of both species. I have not seen the eastern jay here but once before; in 1887 they were very plentiful. They remained until the middle of April on both occasions, but none of them stayed here to breed.

A List of Birds from the Santa Cruz Mountains, California

BY MALCOLM P. ANDERSON AND HUBERT O. JENKINS

DURING the Christmas holidays of 1902-03 the writers made a ten days trip from their homes in Santa Clara Valley, California, to the sea, a distance of twenty-five or thirty miles. At that time recent rains had made the mountain road very bad so our first day, and half of the second, was spent in reaching San Gregorio Creek, a stream on the western slope of the coast range. Here near the village of La Honda we camped several days on the bank of the stream in a deep cold canyon. This canyon runs east and west at this point, so the sun which rose to us about nine, lingered just above the crest of the southern mountain until near four in the afternoon. The northern slope of the canyon thus received some warmth, but the southern and densely wooded side, little or none. For this reason, no doubt, the upper parts of the northern side have been cleared and were then in use as pastureland while the original forest, except some of the largest redwoods has been preserved on the southern side.

The most prominent forest tree in the neighborhood is the redwood (*Sequoia sempervirens*), but many Douglas spruces (*Pseudotsuga taxifolia*) occur, and the undergrowth is very dense. This consists largely of several species of oaks (*Quercus*), the tan-bark oak (*Quercus densiflora*), the buckeye (*Aesculus californica*) and the poison oak (*Rhus diversiloba*). San Gregorio creek, like all streams of this portion of the coast range is lined with alders (*Alnus oregana*), and the California laurel (*Umbellularia californica*) occurs on the banks as well as on the damp hillsides high above the stream. About two miles west of La Honda or eight miles from the coast the redwood forest ceases quite abruptly, giving place

to a country bearing a few oaks, and below this is a land still of a hilly character which has no trees, except along the streams and where they have been planted by man.

After we had spent several days at work in the redwoods we proceeded down San Gregorio creek to the coast where we camped on the beach at the mouth of the stream. About a mile from its actual mouth and just below the village of San Gregorio, the creek forms a lagoon some fifty or sixty feet wide and flows thus, slowly to the ocean. Ordinarily the water of this lagoon is perfectly fresh but at the highest tides the sea must enter for some distance. The banks of the upper portion of this calm water are grown with willows (*Salix lasiolepis*) and a dense tangle of brambles, but nearer the ocean there is a tule marsh of some extent. Except at the stream's mouth the shore is a line of bluffs for the country preserves its hilly character to the very coast.

The following list lays no claim to being exhaustive, as will plainly appear. It is merely a list of the birds we saw and obtained on our outing.

Aythya marila. Scaup Duck. Several males were found in the lagoon at San Gregorio.

Erismatura jamaicensis. Ruddy Duck. Noticed frequently upon the lagoon.

Fulica americana. American Coot. Very common upon the lagoon. Large flocks were seen feeding upon green grass on the shore.

Lophortyx californicus. California Quail. Abundant in the underbrush everywhere.

Falco sparverius phalæna. Western Sparrow Hawk. A number of these birds were seen in the open fields between La Honda and the coast.

Bubo virginianus (saturatus?) Horned Owl. At La Honda two were heard hooting in the redwoods at dusk.

Ceryle alcyon. Belted Kingfisher. A kingfisher was often seen flying along the creek near our La Honda camp.

Dryobates villosus hyloscopus. Cabanis Woodpecker. An individual seen in a redwood near La Honda.

Melanerpes formicivorus bairdi. California Woodpecker. Seen working on dead redwoods at La Honda where they were common.

Sayornis saya. Say Phœbe. Three specimens of the Say phœbe were collected and others were seen in the fields about San Gregorio.

Sayornis nigricans semiatra. Black Phœbe. Very common in the fields near the coast and along the road between the redwoods and San Gregorio.

Cyanocitta stelleri carbonacea. Coast Jay. This jay was common at La Honda, where it frequented the redwoods largely.

Aphelocoma californica. California Jay: California jays were common on the outskirts of the redwood forest.

Sturnella neglecta. Western Meadowlark. Meadowlarks were common along the San Gregorio road below the redwood forest.

Astragalinus psaltria. Arkanses Goldfinch. A flock of gold finches was seen in a buckeye on the road to San Gregorio. One specimen was taken.

Ammodramus sandwichensis alaudinus. Western Savanna Sparrow. These sparrows were common in the pastures near the coast.

Ammodramus sandwichensis bryanti. Bryant Marsh Sparrow. At San Gregorio one of these was taken near a pond on a hill and another in the brush on the bank of the lagoon. No others were observed.

Zonotrichia leucophrys nuttalli. Nuttall Sparrow. Nuttall sparrows were

everywhere abundant at San Gregorio; the specimens taken were well marked. No *gambeli* were found.

Junco hyemalis pinosus. Point Pinos Junco. One junco was secured near La Honda and a large flock was seen on the roadside just out of the redwood forest.

Melospiza cinerea santæcruis. (Grinnell) Santa Cruz Song Sparrow. We found song sparrows common among the tules at the mouth of the San Gregorio creek. They were noticed particularly at dusk.

Melospiza lincolni striata. Forbush Sparrow. Two species were shot, one in bushes on the shore of the lagoon and one on top of a hill not far distant.

Passerella iliaca meruloides (Vigors). Yakutat Fox Sparrow. We obtained a single specimen of this bird at San Gregorio. It was shot while perched upon the dead stalk of a weed on a bare hillside.

Pipilo maculatus falcifer McGregor. San Francisco Towhee. This towhee was heard and seen along the creek at La Honda.

Pipilo crissalis. California Towhee. Abundant along the road between the border of the redwoods and the village of San Gregorio.

Lanius ludovicianus gambeli. California Shrike. The California shrike was a fairly common bird in the open country between the edge of the forest and the coast.

Dendroica auduboni. Audubon Warbler. A few Audubon warblers were seen in trees and bushes in the valley of San Gregorio creek.

Anthus pensilvanicus. American Pipit. Pipits were common in plowed fields on the coast.

Cinclus mexicanus. American Dipper. Three dippers were taken on the creek near La Honda.

Thryomanes bewicki spilurus. Vigors Wren. Several Vigors wrens were noticed among fallen logs and underbrush in the canyon of the creek near La Honda.

Olbiorchilus hiemalis pacificus. Western Winter Wren. Winter wrens were less commonly seen than Vigors wrens. One specimen was taken near La Honda.

Parus rufescens barlowi. Santa Cruz Chickadee. Several flocks of chickadees were seen flying among the redwoods.

Chamæa fasciata. Wren-tit. Wren-tits abounded in the underbrush of the redwood forest.

Regulus calendula. Ruby-crowned Kinglet. Abundant at La Honda where it was especially noticed about laurel trees.

Regulus calendula grinnelli. Sitka Kinglet. One specimen of this bird was taken in a clump of young redwoods near La Honda.

Hylocichla guttata nana. Dwarf Hermit Thrush. A very common bird at La Honda.

Hesperocichla nævia. Varied Thrush. Large numbers of varied thrushes were seen at La Honda.

The Rocky Mountain Screech Owl in Larimer County, Colorado

BY W. L. BURNETT

THIS owl (*Megascops a. maxwelliæ*) is quite a common resident in suitable places throughout the greater part of the county, extending into the mountains to about 7000 feet, but it reaches the height of its abundance along the foothills. To visit the haunts of this bird one has to follow the wooded streams, and as they lie off the usual course of travel, *M. a. maxwelliæ* is unfamiliar to all but naturalists. Altho usually nocturnal, they are frequently met with in the day time. You often see one napping on a limb close to a tree trunk, and when disturbed it seems to suffer little inconvenience by the glare of the day.

These creatures make their homes in hollow cotton-woods, box-elders and willows, and you can always locate them by the pellets which lie around. From the nature of the material and from what stomachs I have examined I think their principal food is mice, which are abundant. I am satisfied they do not nest in the same cavities they use for a winter home, as I have for several years made the rounds in winter and marked the inhabited trees, but not in a single instance have I found eggs in the marked trees. They sometimes appropriate the abandoned nests of the American magpies. Their eggs are not easily taken as the following account of a collecting trip will show.

In company with Mr. F. M. Dille we left Fort Collins one morning about eight o'clock, followed the Cache La Poudre river on the south side as far as Bellevue and returned on the north side, arriving home about three o'clock. After eating a lunch we went down the river (south) returning at eight o'clock p. m. with only two sets for the day's work, after covering about sixteen miles of timber. One was a set of four, badly incubated, the other of five eggs, nearly fresh, and as handsome a set as I ever saw. They were white and clear, while the four were very much nest stained.

What pleasant memories those collecting trips leave. As I am writing this, altho several years have passed, I can again see the nesting cavity, in which we took our set of four, in a cotton-wood tree which was leaning over a shallow pool, where minnows flashed their silver sides in the sunlight. Our set of five was found in a willow stub. I can still hear Dille making his great speech about how destructive *M. a. maxwelliæ* were to poultry. The cause of this burst of eloquence was the sudden appearance of a ranchman exclaiming, "What are you doing there?" just as I had made the important discovery that the nest contained five eggs. Almost invariably the nesting cavities are on the under side of a limb and we made several difficult climbs with the aid of a lariat rope.

That these owls sometimes become bold when driven by hunger, the following episode will show. There had been a week or two of severe weather, with about ten inches of snow on the ground. We had a pet canary hanging at the dining room window. One evening we were startled by a crash against the pane. There seemed to be a whitish object without, and on investigating we found the cause of our alarm to be a screech owl, attempting to reach the canary, for a meal. He was very persistent and repeated his attempt at frequent intervals until the light was removed from the room.

The Santa Cruz Island Vireo

BY JOSEPH GRINNELL

Vireo mailliardorum new species

CHARACTERS—Similar to *Vireo huttoni* of the mainland of California, but slightly inferior in size with especially smaller bill; coloration darker, more leaden olive above and a little more buffy yellow below posteriorly.

TYPE—♂ (in unworn adult annual plumage); No. 5425 Coll. J. G.; Friar's Harbor, Santa Cruz Island, California; September 1, 1903; collected by J. Grinnell.

MEASUREMENTS (in inches)—

Collection	No.	Date	Sex	Wing	Tail	Tarsus	Culmen	Bill from nostril
J. Grinnell	5424	Sept. 1, '03	♀	2.35	2.15	.78	.40	.25
"	5425	" " "	♂	2.40	2.16	.71	.40	.25
"	5426	" " "	♂	2.38	2.14	.76	.39	.24
J. & J.W. Mailliard	3145	April 15, '98	♂	2.39	2.11	.76	.40	.25
"	3171	" 17, "	♀	2.27	2.06	.72	.39	.24
"	3218	" 21, "	♂	2.43	2.15	.72	.40	.25

DISTRIBUTION—Permanently resident on Santa Cruz Island, California.

REMARKS—Santa Cruz Islands lies about twenty miles off the coast of Santa Barbara county, California. Although it is so close to the mainland, a large number of its plants and more sedentary animals have proven to be peculiar. Mr. Joseph Mailliard during a visit to this island in 1898^a secured three specimens of the above-described bird. Moreover he mentioned some of its points of difference as compared with the mainland *Vireo huttoni*; but his well-known conservative attitude in regard to slightly defined species deterred him from bestowing a name. During a recent visit to Santa Cruz Island I also found *Vireo mailliardorum* to be fairly numerous among the live-oaks in the canyons at the west end. Three specimens were obtained. The six skins at hand agree in the characters as outlined. The species is named for Messrs. Joseph and John W. Mailliard, whose conscientious work with western birds deserves at least this slight token of our recognition.

CORRESPONDENCE

The A. O. U. Model Law

TO THE EDITORS OF THE CONDOR:

DEAR SIRs:—Under the head of 'Editorial Notes' in the September-October issue of THE CONDOR is a most surprising outburst of criticism and abuse of the A. O. U. 'model law' and, incidentally, of the A. O. U. Committee on Bird Protection, so evidently prompted by selfishness and so pervaded with ignorance and misconception of the real facts of the case that a word in reply seems desirable. The outcry¹ is against the clause granting permits to properly accredited persons for the collection of birds and their nests and eggs for strictly scientific purposes, which was inserted especially to allow "Ornithology to come in." "Take this feature away, says the writer,² "and it is a good law." He glories in the fact that his own State of California "is still free," and adds that "it is largely to this fact that its exceptional ornithological activity is due. We need a good bird law here, but we of the Cooper Club are not criminals and do not require to be bonded when we seek the festive song sparrow or chickadee."

The fact is overlooked that without this provision the ornithologists who merely collect birds, for scientific study, the pot hunter and the commercial bird trapper would all be in the same criminal category of law breakers, subject to arrest and punishment whenever detected.

³ The hardship, here editorially so grossly exaggerated, of taking out a bond and paying the trivial fee of one dollar a year, suffices to differentiate the ornithological collector from the criminal classes, and ensures his protection from the annoyance of arrest, to which he would otherwise be liable. The law cannot well otherwise discriminate such non-criminals as the members of the Cooper Club, or of the A. O. U., or other reputable bird students, from the pot hunter, the mil-

^a Bulletin Cooper Orn. Club I, May 1899, p. 44.

linery collector, or the lawless boy or man who shoots birds or destroys their nests and eggs in pure wantonness.

This law was draughted by the A. O. U. Committee on bird protection in 1886 and was adopted by the State of New York the same year. Since that date, through my official connection with the American Museum of Natural History, I have had supervision of the issuance of the permits to collect birds, their nests and eggs for which it provides. ⁴Fifteen years' experience enables me, therefore, to speak with some authority of its workings and it may be said that so far as bird students in New York are concerned the simple legal requirements connected with securing a permit and the nominal fee of one dollar, far from being considered a "hardship," are welcomed as a means of protection from indiscriminating game wardens.

Indeed, so desirable is the permit feature usually considered by ornithologists that with the single exception of California they have uniformly advocated the passage of the A. O. U. law, not only as a measure designed to protect birds from wanton destruction, but as a means of legalizing their own calling. The atmosphere of liberty-loving California, however, appears to stimulate a different feeling.

⁵ Especial stress is laid, in the editorial in question, on the hardships inflicted on the non-resident who wishes "to go over the border" for a few weeks' collecting in a neighboring state. In most states and territories of the Union and of Canada the non-resident gunner is required, under current game laws, to take out licenses and pay special permit taxes to kill game, all in the alleged interest of game protection; but when we go to "seek the festive song sparrow or chickadee" in a neighboring state our editorial advocate of ornithological freedom resents any "bonded" hindrances believed to be for the public good. ⁶ Possibly our friends of THE CONDOR have some happy device for a bird law that will protect the little birds from all their human foes (which do not include the "better balanced ornithologists") and be not "un-American nor in any way trammel their dearly cherished ornithological freedom.

American Museum of Natural History,

New York City. Oct. 6, 1903.

J. A. ALLEN.

[Dr. Allen has indeed turned upon us the artillery of his strenuous rhetoric, and were his aim less careless we might feel inclined to betake ourselves to tall timber. We had not the slightest notion upon whose special preserves we were trespassing, when we penned the mild criticism, for which we are threatened with immediate annihilation. If the Doctor is pleased to term our editorial an "outburst," we might ask what especial epithet he would apply to his present communication. We would like to say at the outset, however, that our editorial *did not* abuse the A. O. U. Bird Law, nor the committee, even "incidentally," as anyone may see who takes the trouble even to skim over the criticism in question, and just why this positive assertion is made, we are at a loss to understand.

Dr. Allen's animadversions provide good reading for those who delight in the prospect of an impending tilt in polemics. Yet, candidly, we cannot see how anyone could distort our remarks so completely, as put forth such a reply. The only alternative left us is to conclude that our friendly critic is suffering from an aggravated case of "misconception" of the main point of our contention. Some of Dr. Allen's items have been numbered by us and will be referred to seriatim.

(1) Our "outrery" is most certainly *not* against the clause granting permits to properly accredited persons for the collection of birds and their nests and eggs, but is, as stated succinctly in the editorial, directed against the necessity of taking out a 200 dollar bond every time such a permit or license is obtained. We are heartily in favor of special permits, but not the bonds.

(2) This is what is called "abuse" a few lines above.

(3) We repeat that the taking out of a bond *is* an expensive hardship, and was not "grossly exaggerated." (See Mr. Nelson's communication on this point). We have no special objection to the \$1.00 license-fee, if it is a just fee, but exactly how the addition of a bond helps to discriminate between non-criminals such as reputable bird-students, and the other class, such as pot-hunters, our generalizing opponent of "ornithological freedom" does not specify. Pot-hunters are not recommended by two responsible ornithologists, nor do they bear special licenses.

(4) In passing we might casually ask our critic how many bonds have been forfeited during his fifteen years' experience in supervising the issuance of permits in New York state, and if any, were the parties each recommended by two well known ornithologists, as the law requires? We presume "bonds" are in force in New York, tho here again the Doctor dodges the issue.

(5) In answer to these points we recommend the careful perusal of Mr. Nelson's remarks, printed below.

(6) Yes, Doctor, even your friends of THE CONDOR can offer some timely suggestions for the improvement of the 'Model Bird Law' and we repeat the one already given gratuitously: strike out the bond feature from the clause pertaining to the issuance of licenses. This, we be-

lieve is the happy device whereby the little birds will still be protected "from all their human foes," and the law will not be un-American, "nor in any way trammel" our "dearly cherished ornithological freedom." That many of the leading ornithologists of the country (who are presumably among the "better-balanced") do object to the bond feature we can amply prove, if evidence is desired.

In conclusion we might add that we sincerely regret that our critic has twisted and so entirely misconstrued our (to the western mind) really mild editorial. Still with the friendliest intentions in the world we cannot help hoping that the next time he goes gunning for heretical Western editors, his efforts may be crowned with better success.—WALTER K. FISHER.]

On the 'Bonding Clause' of the A. O. U. Model Law

TO THE EDITOR OF THE CONDOR:

In the last CONDOR I note with approval some editorial objections to the bonding feature of the A. O. U. bird law. The utility and necessity of a license system in laws for bird protection are self-evident. But it appears to me that when the issuance of a license is properly safeguarded and its misuse by the holder is attended by permanent forfeiture and, if necessary, similar penalties to those inflicted for the breaking of game laws all reasonable requirements have been fully met.

The necessity of securing a bond is objectionable from several points of view. In many cases it will work hardship even to the point of preventing the accomplishment of valuable ornithological work. This will be brought about by the delays incident to securing a bond by a stranger, especially where it will be desirable to work say for a week or two in a state and one's time is limited. Or in the case of an ornithologist who would desire to work in several states during the same season. In such a case as that just mentioned, if a recent instance that has come to my knowledge is any criterion, the ornithologist would find it practically impossible to accomplish any work by the delays in securing the necessary bonds. In addition to this is the annoyance of having to ask friends to go upon one's bond, for bonding companies are expensive and not always available. If the laws for bird protection are aimed at those who destroy birds wantonly or for purposes of gain and not at field ornithologists then the bonding clause in the regulations governing the issuance of licenses to properly accredited ornithological students should be cut out.

E. W. NELSON.

THE EDITOR'S BOOK SHELF

A NEW PROCELSTERNA FROM THE LEEWARD ISLANDS, HAWAIIAN GROUP. By WALTER K. FISHER. From Proc. U. S. Nat. Mus. XXVI, pp. 559-693, Jan. 29, 1903.

In this paper a new tern of the genus *Procelsterna* is described. The birds were discovered, by the *Albatross* Hawaiian Expedition, on Necker Island, to the westward of the main Hawaiian Group. So far as known this tern inhabits only Necker, French Frigate Shoal, and Bird Id. Singularly it is most nearly related to *Procelsterna cinerea* of Australian waters, and not to *cerulea* of central Polynesia. The eggs, downy chick, and juvenal plumage are also described.

BIRDS OF LAYSAN AND THE LEEWARD ISLANDS, HAWAIIAN GROUP. By WALTER K. FISHER. Extracted from U. S. Fish Com. Bull. 1903; pp. 1-39 plates 1-10.

In this readable as well as thoroughly scientific paper we find the ornithological results of the *Albatross* Hawaiian explorations in 1902. The recentness of the observations adds an element of freshness to the unusual accuracy and vividness of the descriptions; and thus we are given by far the most valuable account which has yet appeared of "the greatest bird island in the world." Then too the fifty-two half-tones are fine examples of successful bird-photography, though we are disappointed that these could not have been reproduced at least in original size instead of reduced. One is perhaps most struck by the wonderful fearlessness displayed by the individuals of nearly every species presented in the mammoth bird community. We can only share with the author the fear of the deplorable consequences which would follow the introduction of some predaceous animal such as the cat. For Laysan Island is small, only three miles long, and easily accessible over the entire surface. The unparalleled opportunity afforded for study of the habits and life-histories of the various sea-fowl can be appreciated only after reading Mr. Fisher's faithful portrayal of his week's visit with the birds of Laysan.

NOTES ON THE BIRDS PECULIAR TO LAYSAN ISLAND, HAWAIIAN GROUP. By WALTER K. FISHER. From 'The Auk' XX, pp. 384-397, plates XII-XVI, Oct. 1903.

The author discusses the habits of the land birds of Laysan Island, and to some extent their relationships. This paper is an amplification of certain notes published in 'Birds of Laysan, etc.,' with the addition of several photographs not appearing in that paper. The reproductions are much better, and demonstrate the mistake made by the publishers of the 'Birds of Laysan' in attempting a cheap means of reproducing an exceptionally valuable set of pictures.

It is indeed singular that such a small island as Laysan should possess three land birds besides a rail and a duck, all peculiar.—JOSEPH GRINNELL.

BIRDS OF THE SISKIYOU MOUNTAINS, CALIFORNIA: A PROBLEM IN DISTRIBUTION. By MALCOLM P. ANDERSON AND JOSEPH GRINNELL. Proc. Acad. Nat. Sciences, Philad., pp. 4-15, Apr. 17, 1903.

The Siskiyou mountains in northern California are interesting faunally because they are a wedge between the more or less 'arid' Sierras on the east and the excessively moist coast belt on the west. The first portion of the paper concerns itself with the physiography of the region, and a list of the principal forest trees is given, all of which are characteristic Sierran forms. The only peculiar tree to this range, *Picea breweriana*, seems to have been overlooked. The Transition, Canadian, and Hudsonian Zones are represented.

As would be expected *a priori*, the avifauna proves to be a mixture of the Humid Coast Fauna and the Arid Sierran, and the "list is a remarkable one as showing the association of a number of birds not unusually found together." Forty-three species are listed. *Vireo huttoni obscurus* is found to be untenable.

A LIST OF LAND BIRDS FROM CENTRAL WASHINGTON. By ROBERT E. SNODGRASS. From 'The Auk,' XX, pp. 202-209, April, 1903.

During the summer of 1902 Mr. Snodgrass conducted a biological collecting expedition to the interesting Grand Coulee country of Central Washington, and the ornithological results are embodied in the present paper. The Grand Coulee is the bed of an ancient and temporary short-cut for the Columbia river around the eastern face of the old glaciers which flowed southward and eastward from the mountains. It is a gorge fifty miles long, and from one to two miles wide cut down three hundred to five hundred feet into the basalt. The country in this region is for the most part very desolate, being given over to the cultivation of wheat, and "there is nothing left of Nature but the air and the dust of the road." Fifty-two species of land birds were listed, with brief annotations.

ON THE TERRESTRIAL VERTEBRATES OF PORTIONS OF SOUTHERN NEW MEXICO AND WESTERN TEXAS. By WITMER STONE AND JAMES A. G. REHN. Proc. Acad. Nat. Sci. Philad. pp. 16-33, May 7, 1903.

Mr. Stone has given us a list of forty-one species of birds secured by Messrs. Rehn and Viereck in the Sacramento Mountain region of south central New Mexico, and the extreme western portion of Texas. Specimens of thirty-one of the species were taken, the other ten being admitted on field identification. The range of *Spizella atrigularis* is extended eastward by the capture of a specimen at Dry Canyon, Otero Co., N. M.

DESCRIPTIONS OF NEW GENERA SPECIES AND SUBSPECIES OF AMERICAN BIRDS. By ROBERT RIDGWAY. Proc. Biol. Soc. Washington, XVI, 105-112, Sept. 30, 1903.

In this paper Mr. Ridgway publishes diagnoses of four new genera of swallows, and twenty new species and subspecies of North and Middle American birds. These new forms are included in Part III of "Birds of North and Middle America," "now mostly in print, the further printing and publication of which has been postponed until after June, 1904." Of interest to western bird students is *Budytes flavus alascensis* from Western Alaska; *Lanius ludovicianus mearnsi*, from San Clemente Island, Cal., and Santa Margarita Island, Lower California; *Baeolophus inornatus restrictus*, "vicinity of San Francisco Bay, Cal."; *Baeolophus inornatus murinus*, Southern California and northern Lower California; *Psaltriparus minimus saturatus*, "vicinity of Puget Sound"; *Chamcea fasciata rufula*, "central coast district of California, in Marin, San Francisco and Santa Clara counties." Part III of Mr. Ridgway's great work will contain much of especial value to Californians and we greatly regret the unlooked for delay in its appearance. The cause, needless to say, is due to circumstances over which the author has no control.

THE NORTH AMERICAN FORMS OF *ASTRAGALINUS PSALTRIA* (SAY), BY HARRY C. OBERHOLSER. Proc. Biol. Soc. Washington XVI, 113-116, Sept. 30, 1903.

Mr. Oberholser has briefly reviewed the North American forms of *Astragalinus psaltria* of

authors, namely *A. p. psaltria*, *A. p. arizonæ* and *A. p. mexicanus*. He concludes that the last two are the same as *Astragalinus p. psaltria*. *Arizonæ*, from Fort Wingate, N. M. was based on the immature parti-colored plumage of *psaltria*, and *mexicanus* is nothing more than the fully perfected black-backed plumage of the same subspecies. All three of these so-called races have been found breeding together in Colorado. All adult males from Lower California, California, Nevada, Arizona and Utah "have the back olive green, apparently never assuming the black plumage of true *psaltria*." This form is described as *Astragalinus psaltria hesperophilus*, the type being taken from San Bernardino.

BIRDS IN THEIR RELATIONS TO MAN. By CLARENCE M. WEED and NED DEARBORN. SVO. 380 pages, and many full-page and text illustrations. T. B. Lippincott Co., Philad. 1903.

This excellent book is, as the title-page states, "A Manual of Economic Ornithology for the United States and Canada." It is written in an entertaining style, and is certainly a very valuable addition to the literature of economic ornithology. As a storehouse of facts for the lay-reader, as well as for the professional ornithologist, it will be warmly welcomed, and its mission of education is one to be highly commended. In such a short notice it is difficult to give an adequate idea of a book of this character, which necessarily deals with many details. We would therefore advise the reader to procure a copy, if he is interested in this important branch of ornithological study.

THE ECONOMIC VALUE OF BIRDS TO THE STATE. By FRANK M. CHAPMAN. State of New York Forest Fish and Game Commission, 4 to, pp. 1-66, 12 colored plates. Sept. 1903.

In this excellent paper Mr. Chapman has presented a treatise on the economic status of the more important land birds of New York state. But from the nature of the subject his remarks have a much wider application, and omitting certain species would apply very well to California. Of necessity much of the paper is compilation, but the author has exercised good judgment in the selection of extracts, and in the choice of his sources.

The paper opens with 'The Bird and the State,' followed by 'What the Bird Does for the State,' under which is considered, 'The Bird and the Forester,' 'The Bird and the Fruit-grower,' 'The Bird and the Farmer,' and 'The Bird and the Citizen.' Then follows 'What the State does for the Bird,' 'What the State Should Do for the Bird,' and 'The Facts in the Case.' The principal families of land birds are taken up in order, and the commoner or more important economic species are considered under each. Copious references are given to original sources, which makes the paper a most handy compendium of economic ornithology.

The twelve colored plates are by Mr. Louis Agassiz Fuertes, and are well reproduced. They represent twenty-four species, of the leading types, from hawks to thrushes. The plate representing the red-tailed and Cooper hawks is particularly fine, both in the pose of the birds and in coloring, and we are also much taken with that of the screech owl, representing the gray and rufous phases of this familiar bird.

NOTES ON THE ANATOMY OF GEOSPIZA, COCORNIS AND CERTHIDIA. By ROBERT E. SNODGRASS. From 'The Auk,' XX, pp. 402-17, plates XVII-XX.

Mr. Snodgrass compares at some length the anatomy of *Geospiza*, *Cocornis* and *Certhidia*. *Certhidia* is usually considered as belonging to the Mniotiltidæ and *Geospiza* and *Cocornis* to the Fringillidæ, but "in all structural points *Cocornis* really resembles *Certhidia* more than it resembles *Geospiza*. To be sure, the adult males of *Cocornis* and most of the *Geospiza* species are almost plain black, while the adults of *Certhidia* are gray with admixtures of olive and brownish. Yet, in the shape of the bill and in the structure of the skull *Certhidia* and *Cocornis* are almost identical. On the other hand, the structural differences between *Cocornis* and *Geospiza* are slight—the slender-billed *Geospizæ* differ from *Cocornis* in the characters of the skull and skeleton of the bill scarcely more than *Cocornis* does from *Certhidia*. The difference is not nearly so great as that between the slender-billed forms of *Geospiza* itself. Hence, a study of these three genera, is suggestive of a possible derivation of *Geospiza* from *Cocornis* and of *Cocornis* from *Certhidia*. This however, would place *Geospiza* in the Mniotiltidæ!"

There is no objection to this, Mr. Snodgrass. Certain learned authorities group together into the family Drepanididæ birds as dissimilar as our redstart and cardinal grosbeak. Verily classification plays some queer pranks!—WALTER K. FISHER.

THE CONDOR

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EDITORIAL NOTES

Mr. H. B. Kaeding has been obliged to resign the secretaryship of the Club, having been called to Mexico for an indefinite period. The club can ill afford to lose such an active officer, and we hope Mr. Kaeding will soon be among us again. Mr. C. S. Thompson, of Stanford University, has been appointed secretary for the remainder of this year. All communications to Mr. Kaeding should be sent to 820 Scott St., San Francisco.

If we may correctly judge from numerous letters, our objections to the bond clause of the A. O. U. Bird Law (published in the September issue) must have voiced a rather widespread feeling among active field workers. Nearly everyone from whom we have heard seems agreed that the bonds do not accomplish enough good to pay for the inconvenience of procuring them, while evidence is forthcoming which tends to show that they may do harm.

As a matter of history it is perhaps worth recording that when the A. O. U. Model Law was introduced into the California legislature on February 18, 1903 as Senate Bill No. 649, by Senator Lukens, not only was the bond feature stricken out, but likewise the license fee.

At the November session of the Club the following nominations were made for officers for 1903: for President, Henry Reed Taylor; Senior Vice-president, R. B. Moran; Junior Vice-president, Earle Mulliken; Business Manager, J. Grinnell; Secretary, Charles S. Thompson.

The annual meeting will be held at the residence of the President, Mr. H. R. Taylor, 1375 Regent St., Alameda, on the second Saturday in January. All members within reach should make a point to attend. The annual meeting is always more given over to a social good time, than to papers, and the coming ses-

sion offers a splendid chance for everyone to become acquainted. Remember the time and place, and do not plead a "previous engagement!"

The twenty-first congress of the American Ornithologists' Union will be held at Philadelphia, beginning on the evening of Monday, November 16, 1903, and extending to the 19th.

The index which is bound into the present issue is the work of Mr. Grinnell. We wish also to thank Mr. Louis Agassiz Fuertes for the original of the vignette which appears on the title page.

This is the last issue of volume five. It is a fact worth recording that subscriptions for volume six, 1904, are now due. We merely whisper it as a hint, for our subscribers and friends are wise. It is likewise a truism that the more subscribers we have the better magazine we can offer. Promptness in remembering the New Year obligation is often as gratifying to us as new subscribers.

Minutes of Northern Division Meeting

SEPTEMBER. The September meeting was held at the residence of R. B. Moran, in Palo Alto on the evening of the twelfth; W. K. Fisher, acting chairman, in the chair; 16 members and six visitors present. The following were elected to active membership: F. E. L. Beal, Washington, D. C.; Gertrude Forrester, Round Mt., Cal.; Foster C. Wright, Los Angeles. The following persons were proposed for election: T. S. Palmer, Frank M. Chapman and G. L. Kaeding. The resignations of A. M. Shields and E. K. Taylor were accepted. The following amendments to the constitution were proposed, passed and referred to the Southern Division for action.

Art. III, Section 5 to read, "Any person who shall, in the opinion of the Club, have rendered valuable or distinguished services in the advancement of ornithology, shall be eligible to Honorary Membership in this Club."

Art. II, Section 1 to read "This Club shall consist of two co-ordinate bodies known as the Northern and Southern Divisions respectively, the geographical limits of the Southern Division to be that portion of the State of California lying south of the 35th parallel of North Latitude."

The program was one of unusual interest. John M. Willard talked on the "Hiding of Young Birds"; J. O. Snyder on "Fishing With Cormorants in Japan"; R. B. Moran on "The Nesting Habits of the Black Oystercatcher"; and H. B. Kaeding on "Hawking in Korea."

After refreshments and a social session the Club adjourned to meet at Berkeley, November 7.

H. B. KAEDING, Secretary.

Dr. C. W. Richmond notes, in a recent number of the Proceedings of the Biological Society of Washington, that *Corvus americanus* Audubon, 1834, must give place to *Corvus brachyrhynchos* Brehm, 1822. *Scolecophagus* Swainson, 1831, preoccupied, becomes *Euphagus* Cassin, 1866.

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Number 1



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COOPER ORNITHOLOGICAL CLUB



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THE CALIFORNIA VULTURE
Gymnogyps californianus
Drawn by Louis Agassiz Fuertes

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



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Bird Life among the Galapagos Islands

BY R. H. BECK

ILLUSTRATED WITH PHOTOGRAPHS BY THE AUTHOR

WHILE looking at the chart today to see how far we were from San Francisco I happened to compare our position, Latitude $19^{\circ} 24' N.$, Long. $116^{\circ} 12' W.$, with that of last year on the 19th of July and found that we were within five miles of our noon position on that date. We were then returning from the Galapagos Islands and the word Galapagos brought to mind a half promise I had made (wasn't it last January?) that some day when not too busy I would write a note or two about the trip. Today I can hardly claim to be too busy, tho there are three boobies lying on the table waiting to be skinned. They can wait till tomorrow.

To the bird collector who is accustomed to the comparative wildness of most California birds, the Galapagos Islands provide an interesting change in the curiosity, and disregard for man, of their feathered inhabitants. To the 'camerist' who has been used to spending hours and sometimes days trying to photograph a mocking bird on its nest, the unusual opportunities that here present themselves for bird photography are to be long remembered with pleasure. I call to mind now my troubles on Tower Island in getting a picture of a *Nesomimus bauri* at her nest. No sooner had I placed the camera in position and waited a moment for the frolicsome parent to get properly stationed than up flew two more mockers who proceeded to investigate the camera and incidentally the nest of their neighbor. Of course this intrusion was not to be allowed by any bird of spirit so I had to wait while she, with the assistance of her spouse, who had been busy chasing off an impudent *Geospiza pachyrhyncha*, cleared their tree of the intruders. She then kindly consented to my wishes and after posing in several positions I selected one that

displayed her to good advantage and pressed the bulb. Another occasion I must always remember with keenest regret was when the presence of a Baur mocker should have afforded a couple of extremely interesting photographs. The story runs like this. After spending a forenoon tramping over the piled up lava and obtaining various photographs, I reached the cliff above the beach where our boat was waiting. As I sprang across a chasm a night heron jumped from a well built nest and stood on a limb of the tree squawking at me. Seeing a chance to get bird, eggs and nest on one plate the opportunity was eagerly grasped. But much to my disappointment after I had moved up closer for the third time and was beautifully situated for a picture, the bird deliberately hopped down and walked away. A nearby mocker however, seeing my evident anxiety, came to the rescue, and dropping down into the nest commenced picking at the eggs! This would have made a good picture, and I was only eight feet away, but the heron, seeing the impudence of *Nesomimus*, threw fear of the camera to the winds and stepping back to the edge of the nest afforded me the exquisite pleasure of pressing the bulb just as she was making a stealthy poke at the intent mocker. This was so



NESSOMIMUS BAURI, TOWER ISLAND

fine a subject, that I changed the camera slightly, focused carefully, rapidly slid in the plate-holder, yanked out the slide and obtained a view of heron and mocker fighting, on *the same plate* with the first picture! I finally managed to get another view showing the mocker still in the nest with the heron in the background.^a

Most of the small birds belong to the genera *Geospiza* or *Certhidea*, and as they build domed nests the birds are usually concealed from view while nesting. Of the other three or four genera, *Myiarchus* builds in cavities of trees and *Dendroica* so high up on slender limbs that photographing the nest is difficult. *Pyrocephalus*, the handsome little flycatcher, builds a pretty nest and can easily be photographed on it whenever it is within reach.

But when one starts on the water birds, subjects inexhaustible are ever present, and pictures without number can be secured showing bird life in all phases. The bird affording the greatest variety of poses and nesting situations is the Neboux booby (*Sula nebouxi*). We were greatly surprised on Daphne Island to

^a See *Bird Lore*, Dec., 1903 for this picture.—ED.

find down in the sandy bed of an old crater a nesting colony of these boobies. The air was extremely hot, and numerous skeletons scattered about showed a heavy mortality from some cause, possibly the heat; but more than likely they were of young birds, whose parents had ceased to feed them, and which were unable to rise out of the crater. So steep are the sides that the birds usually have to circle around in the crater several times before they can fly out. On Brattle Island, which is nothing but the rocky north side of an old crater, Neboux boobies nest in the sandy spots on top of the ridge, 900 feet high, where the wind keeps them cool during the nesting season. At Tagus Cove, Albemarle Island, we find them with still different surroundings. Here they nest on narrow ledges on the cliffs a few feet above the water. We rowed over to a small colony one morning and I secured a few pictures at close range. In fact it was necessarily very close for it

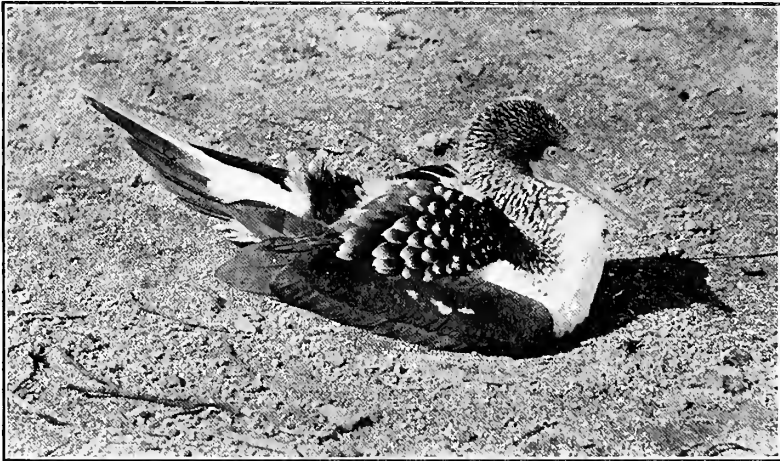


VARIEGATED BOOBIES AND FRIGATE BIRD

was all I could do to maintain my balance on the sliding rocks while I focused on the sitting birds. Matters were further complicated by an irate female, sitting just behind me, who wanted to puncture my legs every time I moved an inch or two in her direction. And this reminds me: to all picture-takers who contemplate visiting the Galapagos Islands I would strongly recommend the purchase of a good brand of cast-iron leggins. From my experience of three trips I am convinced they will be just the thing. They will save lots of bad words and tempers caused by unseen cactus spines that are always in ambush for the unwary, and I can testify that on more than one occasion they would have saved me from some awful scars that frigate birds, boobies, and iguanas have given me. But to return to our Neboux boobies. The amorous love song of the male is uttered in a spread eagle attitude that may cause the photographer to titter, but even so, I hope some

one will take the time to snap it in several different poses for I intend to mount one in that attitude some day and will need photographic evidence that it is not a purely theoretical position. The manner in which he lifts his feet and puts them down in the same place, with swaying, downcast head and a suggestion of being a bold, bad individual is worthy of prolonged effort to reproduce. Another excellent subject is a large flock of Neboux boobies diving in unison for fish. This picture can be easily obtained on a little bay in Albemarle Island and I shall always be sorry that limited time prevented me from getting it while we were anchored there.

The variegated booby, a larger bird than *Sula nebouxi* is an easy subject for the photographer as it nests usually on the edge of high cliffs above the ocean. Sometimes a refractory bird proves obdurate and leaves much to be guessed at in the picture, but often the expenditure of a little time and patience yields abundant fruit. I recall one instance when I wanted a picture showing different ages and plumages. The half grown booby that I wanted particularly with a pleasant expression on his face, was very troublesome. After getting the camera placed and



NEBOUX BOOBY

properly focused showing an old bird and her downy young I started to pose the youngster who didn't want his picture 'took.' I fussed and fumed while he continually hopped and moved around everywhere but the right place. Once he got too near the old lady on the nest and she proceeded to chastise him in a manner that afforded me infinite satisfaction. After being thoroughly mauled by her he managed to struggle up on his perch but even then he disdained to turn his face toward the camera and I had to take the back of his head. During the fracas the camera was slightly moved and failed to get in the whole of an interested frigate bird that I wished to show owing to her proximity to the nesting booby. The young booby being fed is a subject I did not get, the camera always being on shipboard when I saw the process, but still better than this will be the picture of an old pelican feeding its two or three young. Perhaps some one in America has already obtained pictures of this seemingly suicidal operation for the pelican is much commoner there than in the Galapagos.

Webster boobies (*Sula websteri*) nest entirely in bushes and trees on the Galapagos Islands and pictures showing all phases of their life are readily obtained. An

interesting feature regarding these boobies is the coloration of the adult birds. In the Galapagos nineteen out of twenty of the breeding birds are of the grayish type while in the Revillagigedo Islands, about 1200 miles northwest, ninety-nine out of a hundred are of the white type.

Frigate birds which breed commonly on many of the outlying rocks and small islands offer many views worthy of reproduction. Nests are placed on the ground or in bushes and the absence of fear in this species renders photography an easy task. The actions of the frigates during the nesting season afforded me much amusement. Imagine one of those great, ungainly birds sitting on the nest by his mate, one wing thrown lovingly over her back, while he rubs his bill against hers, and utters low beseeching requests for her to notice him. I will say for the female I saw, that she seemed quite bored by his attentions during the time they were under observation! The manner in which a female will unceremoniously

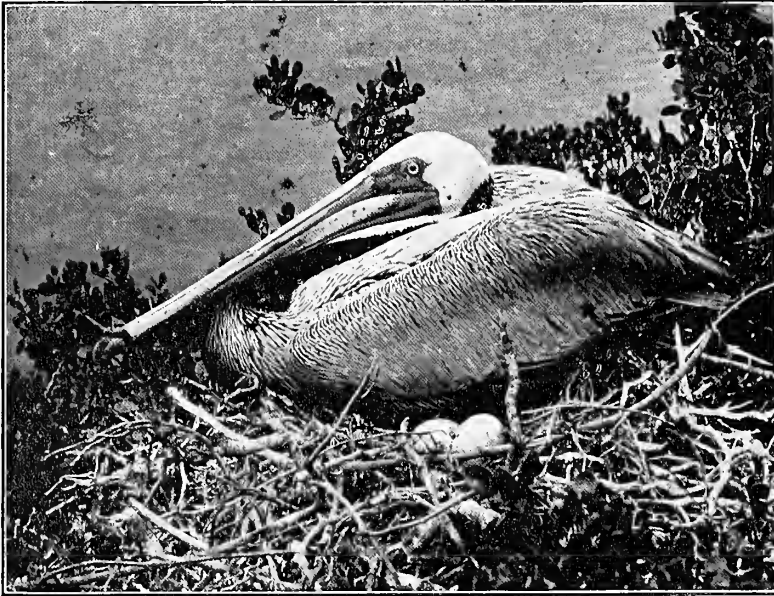


FRIGATE BIRDS ON NEST, BRATTLE ISLAND

hustle her partner off the nest when she returns from her morning exercise is highly edifying. It is quite possible that the poor henpecked fellow sometimes resents her harsh greeting and pulls the egg from the nest in pure spite. We found eggs very often on the edge of the nest or on the ground nearby, and it would be an easy matter for a bird to pull the egg off the nest as it is flat on top and the egg is held between the feet. I am tempted to think that polyandry is practiced by these birds for more than once when the male was scared from a nest on which a female was sitting, another male would swoop down and settle in his place. When a nest is once started one bird must remain on it all the time for the moment it is left unprotected, males from surrounding nests fly to it and carry off the sticks, so that in a few minutes time not a vestige of a structure remains. The young frigate birds grow slowly and occupy the nest for a long time, sitting on it in a dejected attitude that reminds one of a sick chicken.

The red-billed tropic birds (*Phaethon athericus*) which nest on a few of the islands interested me greatly. Their flight and call as they wheeled and darted about the high cliffs closely resembled that of the white throated swifts in California. On Daphne Island where they were common, several of their nests were in small caves in the sandstone cliffs, being quite similar to the nests of duck hawks in the islands along the Lower California coast. Usually they select some crevice among the loose rocks for a nest, altho on San Benedicto Island of the Revillagigedos very often a burrow of the wedge-tailed shearwater is used. In this section of the world the tropic bird wanders as far away from land as the frigate bird. We found both this species and the red-tailed tropic bird more than 600 miles from any island.

The flamingo is one of the birds that can be photographed at close range in the Galapagos but the day I discovered this fact, the camera was on shipboard and we had not time to return for it. It seems that the flight feathers of the flamingo are



CALIFORNIA BROWN PELICAN ON NEST

moulted all at once, for four of the birds obtained that day had not a single one of the old primaries in their wings and the new feathers were just starting. On a former occasion when I attempted to photograph a group of five birds my haste in trying to reach a favorable spot scared them, but as they rose twenty yards away I threw up the camera and pressed the bulb before the camera was steady. The resulting picture is ten long streaks where the legs dangled across the plate and a confused blur showing in place of the bodies.

When one has to back away from a flock of teal to get a fair shot, and then cannot obtain it because the birds run along the beach and swim in the water toward him you have an idea of the tameness of the birds. When this happened to me the first time I was short of cartridges and wanted to get several birds at a shot, but when the whole flock started toward me both on land and water to see what strange thing was approaching I concluded we could dispense with ducks for that day and left them as unafraid as before. Often after that on approaching

the edge of a small pond or lagoon the teal would swim up within a few feet, the males uttering their soft we-u we-u as they jealously guarded their mates from the advances of a rival.

I have made no mention of the shearwaters, penguins, gulls, terns, or oystercatchers but all of these are tame and I have pictures of each in their favorite attitudes. The petrels, even, that nest on one of the islands seem not to have the usual fear of their kind for they fly about and enter their nests by day as well as by night. To stand on a high cliff above the ocean and watch a great flock of petrels darting about you like a swarm of bees, with the pungent smell of their oil in the nostrils, and the muffled tuc, tuc, tucoo, tucoo of many shearwaters rising out of the cracks in the lava underfoot, while beautiful gulls and harsh-voiced boobies and frigate birds join in resenting your intrusion upon a spot where man never stood before, is a pleasure that more than offsets the scratches received in getting there. And the albatrosses! What fun it was to watch them at their peculiar fencing exercise. To see a big albatross walk up to another big fellow with all the swagger of a Bowery tough and bow to him as ceremoniously and gravely as a prime minister could, and then to see them fence with their bills as rapidly as do swordsmen with light rapiers, is a sight I will never forget. Nor will I soon forget the old rascal, who came for me on the dead run and who, if I had not luckily cracked him on the head with the butt of my collecting pistol, would have lunged his powerful beak half way through me. An odd fact about the albatrosses is the direction of their flight from the island. They fly straight out to



RED-BILLED TROPIC BIRD AND NEST

the southward and none are seen about the north side of the island nor about any of the other islands. We were on the island two days before we found them tho the island is not more than four miles across and there were hundreds of the birds.

There are numerous other things to amuse and interest the visitor to this isolated group of islands. From the little fiddler crabs that suddenly disappear before one's eyes on the beach to the flaming volcano that as suddenly appears on the mountain top, there is something to observe continually. Tho I have been there three times, I hope to make yet another trip to those isles where the turtle sleeps unmolested on the beach, and the bark of a seal or the weird cry of a far-away penguin are the last sounds of the night one hears as he drops into grateful slumber.

Lat. 19° 24' N., Long. 116° 12' W., July 10, 1903.

Afield at Flathead

BY P. M. SILLOWAY

ON the morning of my arrival at the University of Montana Biological Station at Bigfork, head of Flathead Lake, the presence of the long-tailed chat (*Icteria virens longicauda*) was attested by its characteristic calls in the bush. The Station is at least seventy miles north of Selish, where I last observed this species. It appears that this chat is working its way northward in the Rocky Mountain region of Montana, and instead of limiting its range to southern Montana, we are safe in expecting its occurrence in suitable localities throughout the north-western part of the state.

My collecting all the eggs (seven sets) in a small colony of the Holbøll grebe (*Colymbus holbølli*) at Swan Lake last season was severely criticized. My actions were compared to those of the professional plume hunter, and I was accused of leaving a "devastated bird colony" in my wake. This criticism caused me to undertake a second visit to Swan Lake this season for the purpose of determining the approximate effects of my collecting upon the aggregate grebe life of the swamp at that place, and at considerable personal expense I organized another expedition to that locality. In my defense I claimed that my operations in the swamp would have but little effect upon the outcome in the aggregate. I give my notes for 1903 for what they are worth, believing that they will augment the fast accumulating mass of evidence to show that there is no occasion for misunderstanding between the conscientious oologist and the zealous bird protectionist.

On June 18, three nests of the Holbøll grebe were found, two of five eggs each, and one of four, all covered and apparently partially incubated. Also a nest containing one fresh egg. On June 19, another nest was found containing one fresh egg. The foregoing data show that at least five pairs were nesting in the swamp, as many as were nesting in the preceding season. On June 22, a nest was found containing five eggs, covered, and apparently quite advanced in incubation. Hence at one time the swamp contained six nests, three with five eggs each, one with four eggs, and two with two eggs each. It is evident that the balance of grebe life in this colony was not greatly disturbed by my collecting of 1902, and as many grebes were cackling in the tangle in 1903 as were tenanted the swamp in 1902. The balance of bird life in nature is a mysterious fact. Why the same number of individuals or thereabout, will be found in the same area year after year, regardless of the natural increase or decrease, is an inexplicable matter. It is needless to say that in neither season did we kill any of the grebes, our deprivations being limited to despoiling the nests as recorded.

The Townsend warbler attracted my attention this season by its abundance. I had regarded this warbler as rather uncommon in the Flathead region, but this season it appeared to outrank any other warbler in numbers. During June, after our arrival, its song could be heard at all hours of the day. The warbler frequented the larger trees, such as tamarack and Douglas spruce, singing from a station above the middle of such a tree. The song resembles the syllables, "Reet, reet, reet, reet-er, ee-zee," and can easily be identified by the regular ending "ee-zee," in which the "ee" is accented and prolonged. The first week of July was rainy and chilly, and after that time I heard no more of the singing of this warbler.

On June 15 I found a nest of the Townsend warbler (*Dendroica townsendi*). It was in a clump of small fir trees on a rocky ridge formed by a "fault" near the

lake shore, 2,950 altitude. The nest was six feet from the ground, in a small fir surrounded by larger ones, so that the site was completely screened from passing view. The nest was made beside the main stem, situated like that of a chipping sparrow's, which it greatly resembled. It was made externally of coarse weed-stems and grasses, and was lined with finer grasses and horsehair. The cavity was two inches in diameter, and one and three-eighths inches deep. There were five young nearly fledged, showing the black crown and yellow superciliary line, and dull wing-bands. All the younglings were infested with a parasitic grub, which had eaten a hole in the skull or upper part of the neck behind, and their wriggling forms could be seen in the skull or other cavity, from which it appeared that the parasite had eaten the entire contents, though the youngsters were energetically stretching forth their heads for food at the approach of the industrious parents. The male was most active in bringing food to the nest, and he was secured with little difficulty. The female was shyer, and I could capture her only after long (and impatient) waiting. (I shall be glad to send specimens of this parasite to any person who may be investigating this subject).

The cedar waxwing is reputed to be lacking in vocal powers, except the faint lisp-ing call and such variations of it as are possible in bird language. This summer for the first time I heard a cedar waxwing (*Ampelis cedrorum*) utter another cry, showing that it can give forth abundant sound should occasion ever require.

The waxwing is especially numerous in this portion of the Flathead region, and desiring a skin for the collection, I sallied out one evening before dusk with my little collecting gun. Two waxwings were sitting near each other on a lower branch of a fir, about twenty feet from the ground. They were evidently courting. He would sidle over to her, rub his breast against hers, rub his bill caressingly upon hers, and then sidle back to his former place. Then the other bird would go through a similar performance. Disliking to kill one without the other, I tried to get both at one shot, all that my gun carried. One of the birds fell wounded. As I picked it up, it gave utterance to a loud, shrill whistling cry, a continuous piteous cry not unlike the screaming of a young robin when distressed. It is a curious fact that some birds have a peculiar cry which they use only on occasions of great fright or peril. When a long-eared owl (*Asio wilsonianus*) is chloroformed, it will utter a peculiar shrill whistle; but whoever heard this owl emit such a call in the ordinary circumstances of life? So it is with the cedar waxwing, for it is certainly capable of producing a most piercing scream when its life is sorely threatened.



NEST OF RUBY-CROWNED KINGLET
PHOTO BY PROF. M. J. ELROD

This season for the first time I found a nest of the Louisiana tanager (*Piranga ludoviciana*) with eggs. It was on the fourth of July. The nest was in a tall Douglas spruce, on a short branch among the lowest having vegetation. The site was twenty-five feet from the ground, on a horizontal fork, the nest being held in place by surrounding twigs. It was made of coarse forky twigs as an outer framework, the walls being made of fine rootlets, and the lining of horsehair. The cavity was two and three-fourths inches in diameter, and one and one half inches deep. The nest was found by watching the birds as they frequented the place, and finally seeing the female take her place on the nest. When disturbed, the female was sitting, and she remained on the nest until I was quite near it. The site was a tuft of twigs four feet from the main stem. There were four eggs, incubated 50 per cent or more. When removed from its site, the loose twigs in the outer part of the nest fell away, like that part of a grosbeak's nest.

The ruby-crowned kinglet (*Regulus calendula*) is very common in this region. In the middle of June I spent many minutes watching the birds in their movements in the tops of the medium-sized evergreens, but was unable to find any nests, probably owing to the fact that nest-building was finished and the females were sitting. The males were singing in the upper parts of the taller trees, but were extremely shy and managed to keep out of sight from the inquisitive observer. It is a queer song, beginning with two or three squeaky notes like "tsee" followed by "chir, chir, chir, whirtle, whirtle, whirtle." and several other rather indistinct notes.

At length, on July 6, I took a nest of the ruby-crowned kinglet, with both parent birds. The nest was situated about fifteen feet from the ground, near the extremity of a branch in a fir tree beside a road through the woods. The site was six feet from the main stem. The nest was saddled on an oblique twig on the under side of the branch, and was also somewhat pendent from several small twigs about which the walls were woven. The structure was four inches in diameter externally, and three inches high. The opening, which was at the top, was two and one-fourth inches wide, and the cavity was one and seven-eighths inches deep. The nest walls were made of dark green lichen, deerhair, gossamer, and bark shreds. The lining was hair, soft downy feathers, and lichen. There were eight young in the nest, ready to leave in a short time. The accompanying illustration, made from a photo by Prof. M. J. Elrod, shows the position and site of the nest.

Lewistown, Montana.

A Few Records Supplementary to Grinnell's Check-list of California Birds

BY JOSEPH MAILLARD

WHEN a list of birds of any locality appears in print it usually occurs that observers in the given area will find that they have some records and notes which are not referred to by the author of the list. This is due to several reasons. Either the observers have not realized that some particular records were worth mentioning, or the mention of certain things may have been postponed for the moment and lost sight of for the time being, or certain parties may not have

had access to all the literature published upon this locality and so not known that they have something new to bring to light. Again the author of such a list may easily have made an occasional accidental omission, especially if he have much other work to attend to, and also there may be published records of certain things which for some reason he does not deem of sufficient importance to touch upon. Realizing all this I herewith submit some records and notes, made by my brother and myself, as additional to Mr. Grinnell's "Check-list of California Birds," (Pacific Coast Avifauna No. 3) with an apology for not having published any of the more valuable ones before this, and for doing so at all as regards the minor ones which perhaps may be superfluous.

Brachyramphus marmoratus. Marbled Murrelet. While Mr. Grinnell gives this bird as a "common winter visitant" we have quite a number in our collection taken on Monterey Bay in the month of July, and one in June. We also have one specimen taken on San Francisco Bay, near Tiburon, on Nov. 16th, 1895, and we have no reason to suppose that further observation will not show that quite a number come inside from the ocean at various times.

Stercorarius pomarinus. Pomarine Jaeger. There are three pairs of this species in the collection of J. & J. W. M. taken on San Francisco Bay, near Alcatraz Island, on September 25th, 1900. In that year numbers were noted daily by my brother, from the Tiburon ferryboat, between September 9 and Oct. 2, when a hard storm caused them to disappear. Since then noted in greater or less numbers every fall, appearing about Sept. 1.

Hydrochelidon nigra surinamensis. Black Tern. Breeds in overflowed regions along the Sacramento and San Joaquin rivers. A number of nests recorded by J. and J. W. M. on latter river near Merced. Found breeding last June by Messrs. Chapman and Fuertes at Los Banos.

Puffinus opisthomelas. Black-vented Shearwater. This species is given as a common summer visitant, whereas I have taken specimens on Monterey Bay in November and December, 1895, and December, 1896.

Puffinus griseus. Dark-bodied Shearwater. This is also given as a summer visitant. In our collection are specimens, taken by myself on Monterey Bay, Dec. 18, 1895, and Feb. 11, 1901.

Chaulelasmus streperus. Gadwall. Another breeding record of this species is that of a female and nest containing eggs taken 20 miles south of Merced, along a stream from an artesian well, near the San Joaquin River, by J. & J. W. M. on June 24, 1901.

Clangula americana. American Golden-eye. We have several winter records from Paicines, San Benito Co., Cal. Rather common at that place through the winter, but mostly immature birds.

Clangula islandica. Barrow Golden-eye. One specimen in our collection taken at Ross Landing, Marin Co., near the bay shore. Several have been taken by C. A. Allen at Pt. San Pedro, on the Marin bay shore, in early spring.

Histrionicus histrionicus. Harlequin Duck. Flocks noted on coast at Pt. Reyes, Marin Co., in month of June.

Dendrocygna fulva. Fulvous Tree-duck. Formerly seen in Marin Co., but none noted for last ten years.

Steganopus tricolor. Wilson Phalarope. One specimen in our collection from West side of the Sierras, taken by C. A. Allen at Blue Canyon, June 16, 1893. Found breeding at Los Banos, June 1903, by Messrs. Chapman and Fuertes.

Octodromas maculata. Pectoral Sandpiper. We have one pair of this species

taken by myself at Mill Valley Junction, near Sausalito, on Sept. 14, 1896. This should have been recorded at the time, but probably I failed to realize the paucity of records for this state.

Heteractitis incanus. Wandering Tattler. The southward migration of these birds must commence very early from their breeding grounds for they are quite common at Pacific Grove, Monterey Co., in August.

Numenius longirostris. Long-billed Curlew. Numbers seen, and one specimen captured by J. & J. W. M. on bank of San Joaquin river 14 miles south of Merced, in June, 1900 and 1901.

Arenaria morinella. Ruddy Turnstone. **Arenaria melanocephala.** Black Turnstone. We have several specimens of these species from San Francisco Bay, taken in December and January. They appear to be quite numerous at times during the winter around the vicinity of Red Rock and the other islands between San Francisco and San Pablo Bays.

Zenaidura macroura. Mourning Dove. A small flock of this species usually may be found through the winter at San Geronimo, Marin Co., and frequently noted in winter at Paicines, San Benito Co.

Ceryle alcyon. Belted Kingfisher. This bird is numerous also along the Central California sea coast during the winter.

Scolecophagus carolinus. Rusty Blackbird. We have in our collection a male bird taken by H. B. Kaeding in Amador Co., Cal., and identified by Mr. Ridgway as of this species, Dec. 15, 1895.

Carpodacus clementis. San Clemente House Finch. During four weeks collecting on Santa Cruz Island in April, 1898, I failed to find a single individual of this species, though the island was pretty well covered in my wanderings. Hence it seems that it is not always abundant on that island, to say the least. In searching for *clementis* a large number of *frontalis* were taken in the hope of finding the latter among them.

Loxia c. bendirei. Sierra Cross-bill. There are several specimens in our collection from Marin Co., taken in winter.

Spinus pinus. Pine Siskin. A few pairs breed in Marin Co. No nests taken by us, but birds have been seen on several occasions carrying material for building into the high fir trees.

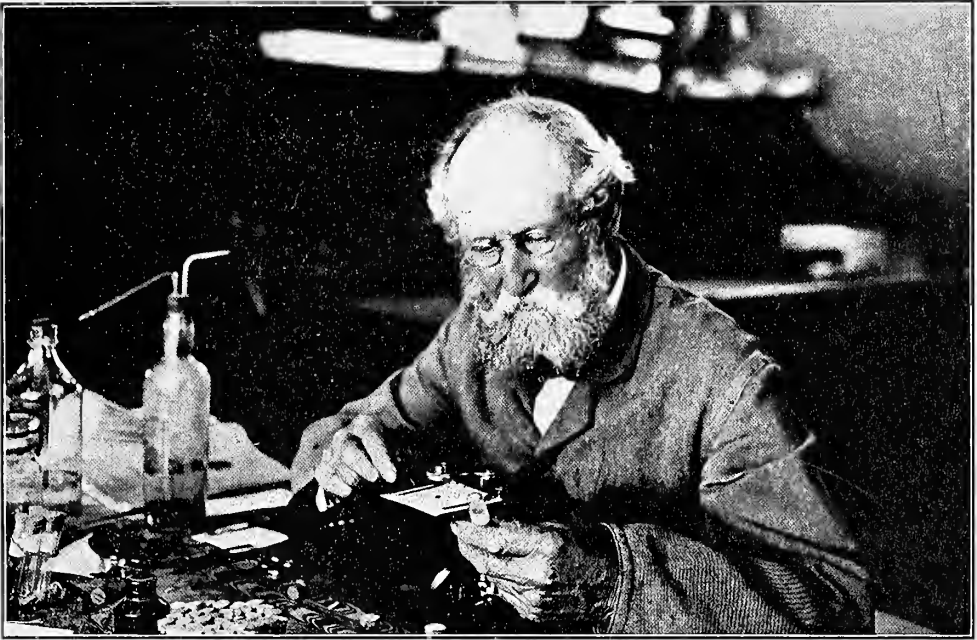
Passerculus rostratus. Large-billed Sparrow. We have one specimen from Santa Cruz, taken by G. F. Breninger, August 27, 1895.

Phainopepla nitens. Phainopepla. Very common winter resident at Paicines, San Benito Co.

Vireo s. cassini. Cassin Vireo. Breeds regularly in small numbers at Paicines.

Helminthophila sordida. Dusky Warbler. Of a number of this genus taken at Santa Barbara in April 1902, several specimens appear to be of this species. The birds were captured during a migration, apparently, as they all disappeared shortly afterward. Both *sordida* and *lutescens* were in sadly abraded plumage at the time.

Geothlypis tolmei. Tolmie Warbler. A few of these warblers breed regularly in Marin County.



PROF. F. E. L. BEAL

Few eastern ornithologists are better known to Californians than Prof. Beal, who has spent much time with us, studying in the field the relations of our common birds to agriculture and horticulture. Prof. Beal's name has long held foremost rank among the economic ornithologists of the country, and it is safe to say his papers on economic ornithology have been more potent in influencing farmers and fruit growers, than a legion of state laws. Under the auspices of the Biological Survey of the U. S. Department of Agriculture, with a corps of able assistants, he is rapidly and successfully impressing upon the minds of our practical class the relation of birds to the matter of dollars and cents.

We are much indebted to Mr. W. Otto Emerson for the opportunity of presenting this excellent portrait.

The Status of the Southern California Cactus Wren

BY HARRY S. SWARTH

IN a recent review of the cactus wrens of the United States Dr. Means describes a new desert race under the name of *Heleodytes brunneicapillus anthonyi* and ascribes the birds of the coast region of southern California to the subspecies *bryanti*. Believing him to be mistaken in both statements I have been to some pains to bring together a series of cactus wrens from the regions inhabited by the two supposed varieties; and what with those in my own collection, together with specimens loaned me by different members of the Cooper Club I have had at my disposal, in all, forty-eight skins, representing the following localities: 22 from southern California (San Fernando, Pasadena, San Bernardino, and San Geronio

Pass), 11 from the Colorado Desert (Cohuilla Valley, Walters, New River, Pilot Knob, Cameron Lake, Vallecito, and Yuma), 13 from south-eastern Arizona (Tucson, Fort Lowell, and the Huachuca, and Santa Rita Mountains), and 2 from Sonora, Mexico. Taking these up in regular order we will first consider the birds from the coast region of southern California, which should represent the subspecies *bryanti*. In Anthony's original description of *bryanti* (Auk XI, 1894, 210) the distinguishing features of the race are not made at all clear, but from the accompanying text it is evident that one great point of difference between *bryanti* and *brunneicapillus* is that in the former all the rectrices but the middle pair are more or less perfectly barred with white, while in the latter the outer tail feathers only are barred on the inner web. Besides this striking feature Dr. Mearns ascribes to *bryanti* a back broadly striped with white.

In the series of twenty-two southern California skins before me there is just one with a perfectly barred tail. This is a juvenile male taken at San Geronio Pass, the edge of the desert; and I do not think that great importance can be attached to it, as the juveniles from all parts show more white markings on the tail feathers than do the adults, and in the post-juvenal moult, which takes place in September, the rectrices are lost with the rest of the juvenal plumage. Of the remainder of the series there are one or two with not even the outer feathers perfectly barred on the inner web; many of them have illy defined spots on the second feather and one from San Bernardino has a few irregular white spots on all the feathers.

As to the striped back, supposedly diagnostic of *bryanti*, I believe it is to some extent seasonal, being more apparent in breeding birds in rather worn plumage than in autumnal specimens; but it is far more conspicuous in the desert birds at hand than in any of the California or Arizona specimens.

Passing on to the Colorado Desert birds I find in the tail feathers exactly the same markings as in specimens from the coast region; one with the inner web of even the outer feather imperfectly marked, one with some white markings on all but the middle pair, and most of them with some slight marks on the second feather. As I before remarked the desert birds show a greater tendency to longitudinal stripes on the back (these markings being more broken up in the coast specimens) but the difference is not great nor constant enough to justify any separation of the races. One specimen, a male from the Cohuilla Valley (Coll. G. F. Morcom, April 15, 1886) is noteworthy as being conspicuously paler than any other bird in the entire series. The throat is sparsely marked with black, the back has broad longitudinal white stripes and the crown is very light colored, almost chestnut, in striking contrast with the dark brown pileum of the rest of the specimens. In tail markings, however, it is like many others, the outer feathers perfectly barred, one or two white markings on the second, and just a trace of white on the third. A female in my collection taken at San Fernando, California (No. 2181, October 18, 1901) is very similar to this bird in general appearance, the only differences being due to the one being in perfectly acquired autumnal plumage, while the other has the plumage more worn and abraded.

Of the Arizona specimens, I have some from the extreme southeastern corner of the territory that are absolutely indistinguishable from others taken within a few miles of the Pacific Ocean. In the tail markings they vary exactly as specimens from the other localities do.

There is supposed to be some difference between *anthonyi* and *bryanti* in the character of the markings of the under parts, the spots in the former being smaller, more scattered, and linear in shape, while the latter is supposed to be heavily

marked with rather large, round, or ovate spots; but this seems to be purely individual variation, for I find specimens showing both character of markings in the Arizona, the desert, and the southern California series. The differences in the black throat patch are mainly seasonal. When the fall moult is completed the throat feathers, dusky at the base, then white, and with about the terminal third black, are slightly edged with grayish, producing, in birds shot up to about the end of October, a somewhat hoary effect in the otherwise black throat and upper breast. This is very soon lost, and by early spring much of the black has worn away as well, sufficiently so to expose much of the light colored portions of the feathers; so that in birds shot at this time the black is not nearly as "solid" in appearance as is the case with fall birds. In two June specimens, one from San Fernando, California, and the other from the Santa Rita Mountains, Arizona, abrasion has proceeded to such a point that the throat patch has entirely disappeared as a distinctive marking, and the two birds are practically uniformly spotted over the entire lower parts; while in the two Sonora specimens (♀ ad. and ♂ im. coll. F. Stephens, Aug. 18, 1884) the plumage is so abraded as to have lost all distinctive markings, and the lower parts are almost unmarked.

In the series of cactus wrens now before me I am quite unable to appreciate any decided pallor of coloration on the part of the desert birds as compared with specimens from the coast region; and it may be of interest to remark that the female of the two extremely pale colored birds mentioned above, and the darkest colored bird of the whole series, also a female, were shot on the same day, October 18, 1901, at the same place, near San Fernando, California.

Juveniles from all regions show great variation in markings and coloration; they are usually more or less spotted underneath, with some ochraceous on the flanks and abdomen, but one in my collection (No. 4080 ♀ juv. Santa Rita Mountains, Arizona, June 22, 1903) has the lower parts, from the throat to and including the lower tail coverts, strongly suffused with ochraceous, and, with the exception of some spots on the lower tail coverts, practically immaculate.

Bryanti as originally described was considered as intermediate both in coloration and habitat, between the Lower California *affinis* and the more northern *brunneicapillus*, and as such the race may have existence, though in southern California its habitat must be extremely restricted. None of the birds in the series I have gathered from this region are referable to that race, as I have demonstrated; and it is also apparent that, by whatever name it be called, but one recognizable variety of cactus wren occupies the region from the Pacific Coast in southern California, to, at least, eastern Arizona. Of the Texan form, *Heleodytes brunneicapillus couesi*, I cannot speak with any authority, having no specimens. *Anthonyi* is supposed to differ from both *bryanti* and *couesi* in being of paler coloration and having the lower parts less heavily spotted. There is assuredly no difference between desert birds and birds from the Pacific Coast region in these respects, and as the characters supposed to distinguish *couesi* and *bryanti* ("back narrowly striped with white, the stripes being broken up into spots; intermediate rectrices nearly all black, or slightly spotted with white") certainly habitually occur in the coast birds, the inference is that the supposed three subspecies *couesi*, *anthonyi* and *bryanti* are really one indistinguishable variety. Thus if true *brunneicapillus* proves to be a Mexican species, as appears to be the case, the cactus wrens occurring along our southern border from the Rio Grande to the Pacific will probably have to be known as *Heleodytes brunneicapillus couesi* (Sharpe); though, as I said before, a race *bryanti* may exist in the habitat ascribed to it by Anthony, though most assuredly not as defined by Dr. Mearns.

I wish here to express my thanks to Messrs. F. Stephens and G. F. Morcon for the loan of specimens from the Colorado Desert and various parts of Arizona, and to Mr. Joseph Grinnell for some additional specimens from southern California.

Birds of Fort Custer, Montana

BY EDGAR A. MEARNS

MY visit to Fort Custer was a brief one. Leaving Custer station on the Northern Pacific railroad very early on the morning of July 23, 1889, in the kind of conveyance known throughout the Army as an "ambulance," drawn by an excellent team of four mules, we reached Fort Custer (since abandoned), located on a bluff beside the Bighorn River, about noon. The rest of that day, and the one following, were chiefly spent in looking about the country; and on July 25th, towards evening, we commenced the return trip to the railroad at Custer. Following is a list of the birds observed:

Actitis macularia (Linn.). Spotted Sandpiper. One was seen on the bank of the Bighorn River.

Ægialitis vocifera (Linn.). Killdeer. Very many were seen along the streams, and on the *mesa* back of Fort Custer.

Dendragapus obscurus richardsoni (Doug.). Richardson Grouse. I saw wings and tails of this grouse that had been brought in to the fort from a sawmill in the neighboring mountains.

Pediæcetes phasianellus campestris (Ridg.). Prairie Sharp-tailed Grouse. This is known as the "Willow Grouse." I saw several flocks as we drove along the Bighorn River, and shot two birds that were near the road.

Centrocercus urophasianus (Bon.). Sage Grouse. Abundant on the grassy plain back of Fort Custer. On July 24th, my host, Doctor William R. Hall, U. S. Army, took me afield in his buckboard to shoot sage grouse. A few miles from the post the Captain's setter dog caught a half-grown one, which made a delicious meal; but, when older, the flesh is said to become tough and permeated with sage, for which reason these grouse were only shot by the officers of Fort Custer during the months of July and August. On this occasion a heavy thunder-storm drove us from the field before another covey could be found.

Zenaidura macroura (Linn.). Mourning Dove. Very abundant, especially in the heavy timber bordering the Bighorn River.

Cathartes aura (Linn.). Turkey Vulture. Abundant.

Circus hudsonius (Linn.). Marsh Hawk. Common. Seen coursing the prairie in every direction.

Buteo or *Archibuteo*. Several buzzard hawks were seen on telegraph poles at a distance. Both genera may have been represented.

Falco sparverius deserticola Mearns. Desert Sparrow Hawk. Very abundant; fluttering and hovering over one spot, searching for grasshoppers on which they were feeding. They were very fearless, allowing the ambulance to pass within a few yards of them, sometimes following it in pursuit of grasshoppers disturbed by the passing vehicle.

Speotyto cunicularia hypogæa (Bon.). Burrowing Owl. Many were seen in prairie-dog towns between Custer station and the Bighorn River. On the *mesa* around Fort Custer it was also numerous.

Colaptes cafer collaris (Vigors). Red-shafted Flicker. Abundant wherever there was timber.

Melanerpes erythrocephalus (Linn.). Red-headed Woodpecker. Abundant in the cottonwood timber of the river-bottoms.

Chordeiles virginianus sennetti (Coues). Sennett Nighthawk. Nighthawks

were common everywhere, and especially plentiful on the *mesa* behind Fort Custer, where they were continually swooping down towards one, with a startling boom. One was shot.

Tyrannus tyrannus (Linn.). Kingbird. Common along Bighorn River.

Tyrannus verticalis Say. Arkansas Kingbird. Abundant, especially so among the cottonwoods of the Bighorn River.

Otocoris alpestris leucolæma (Coues). Pallid Horned Lark. Abundant.

Pica hudsonica Sabine. Black-billed Magpie. Some were seen among the cottonwood trees beside the Bighorn, others about the slaughtering pens. The appearance of this bird gives one an impression of length and striking contrast of colors; and its habits suggest a mixture of cunning and audacity.

Corvus corax sinuatus (Wagler). American Raven. Common. Some were extremely unsuspecting of man.

Molothrus ater (Bodd.). Cowbird. Abundant on the Bighorn River and in the post of Fort Custer.

Sturnella neglecta (Aud.). Western Meadowlark. A common species of the region, abundant on the plain around Fort Custer.

Icterus bullocki (Swain.). Bullock Oriole. Several families of them were seen in the cottonwood trees bordering the Bighorn River.

Scolecophagus cyanocephalus (Wagler). Brewer Blackbird. Abundant. As usual, flocks of these birds followed the herds, and frequented the corrals and slaughter pens as well as the timbered river-bottom.

Quiscalus quiscula æneus (Ridg.). Bronzed Grackle. Flocks of these birds frequented the outskirts of Fort Custer, and the neighboring riverbanks. They seemed to have copied some of the actions of the Brewer blackbirds, such as loafing around corrals, fences and wood-ranks.

Coccythraustes vespertinus montanus (Ridg.). Western Evening Grosbeak. A small flock was seen beside the Bighorn River, near Fort Custer.

Astragalinus tristis pallidus (Mearns). Pale Goldfinch. A few were noted at Fort Custer.

Calcarius ornatus (Townsend.). Chestnut-collared Longspur. At Fort Custer it is quite common.

Poœetes grammens confinis (Baird). Western Vesper Sparrow. A common species.

Chondestes grammacus strigatus (Swain.). Western Lark Sparrow. Very abundant.

Progne subis (Linn.). Purple Martin. Numerous in the timbered river bottom.

Petrochelidon lunifrons (Say). Cliff Swallow. Abundant.

Hirundo erythrogastra Bodd. Barn Swallow. Common.

Tachycineta thalassina lepida (Mearns). Northern Violet-green Swallow. Abundant along the bluff bank of the Bighorn River.

Lanius ludovicianus excubitorides (Swain.). White-rumped Shrike. Common.

Oroscoptes montanus (Townsend.). Sage Thrasher. Common.

Toxostoma rufum (Linn.). Brown Thrasher. Several were seen on the Bighorn River.

Annual Outing Meeting of the Southern Division, 1903

BY FRANK S. DAGGETT

THE 1903 outing meeting of the Southern Division of the Cooper Ornithological Club which was held October 31, November 1 and 2, will long be remembered as one of the most successful ever held by the club. This annual gathering of the clan has taken place for many years past and has become so popular there is little danger of its being overlooked in the future.

Once a year the members select a committee who in turn select a place for the gathering of the clan, and much depends upon their judgment.

Twice in the history of the club it has met on Mt. Wilson, a pine-covered ridge 5800 feet high, where kinglets, chickadees, nuthatches, white-headed woodpeckers, Sierra juncos and black-throated warblers abound. Other years found the members with blankets, camped under the oaks in the upper reaches of the Arroyo Seco canyon, where jays, dotted canyon wrens and pallid wren-tits enliven the scene by day, and spotted and California screech owls by night, although, as I remember it, the members did most of the whooping.

This year the committee, Howard Robertson and H. J. Lelande, made a happy hit when they selected the Salisbury ranch for a rendezvous. This ranch adjoins the sign-board station of Garnsey, on the Chatsworth branch of the Southern Pacific R. R. From its edge grain fields stretch as far as the eye can see. Ordinarily an orchard district, intruding itself into grain fields, offers to the collector and observer little beyond the common run of birds, but here the whole fauna is changed by the topography of the country. The vast water shed to the north and east, culminating in the Tejuja Wash which crosses the San Fernando valley in a series of strips of great width, carrying the underground flow of water, focusing at this point, forms the head of the Los Angeles river, with its low bottom-land and dense willows and clumps of cotton-wood, with the avifauna attracted by such an environment. From this point, north, for miles the wash gradually widens until it becomes a broad chaparral region, the resort of valley partridges black-tailed gnatcatchers, cactus wrens and thrashers. It is here that stragglers like the sage thrasher and lark bunting have been taken, in years gone by, by Swarth and others. The weed-grown grain stubble affords shelter for western savanna sparrows, western meadowlarks, western vesper sparrows, Say phoebe and burrowing owls. The orchards, with more or less fallen fruit on the ground, attract a great many red-shafted flickers, house finches, and Audubon warblers.

These outings are a crucial test of the members; while many plan for them months in advance, it is the only tried collector and enthusiast who usually responds at roll call, but it is worthy of record that every officer of the Southern Division responded to the call of his name at the meeting held October 21, 1903.

Messrs. Robertson, Lelande, Swarth, Pringle and Shinn came from Los Angeles by team, through Calhenga Pass, Judson by rail, and Richardson with blankets strapped to handle bar covered the eighteen miles from Pasadena on wheel, and Grinnell and Daggett by rig.

During the three days in the field the territory was carefully investigated by the different members of the party who scattered in all directions at daybreak, returning in time to relate the experiences of the day over a delicious stew made from game contributed by the hunters of the party. W. B. Judson, always lucky, made the most noteworthy find, it being an adult male of Scott oriole (*Icterus parisorum*) the first specimen actually taken in Los Angeles Co., although H. S. Swarth noted a single bird many years ago. Among the other varieties was a pigeon hawk and Brewer sparrow by Daggett, and two dusky poor wills, one by Judson and one by Swarth.

Grinnell and Swarth set a line of traps for mammals and secured many odd forms, such as kangaroo rats, pocket and white-footed mice and wood rats, the wily coyote refusing to be caught but did not fail to help himself to mammals already in the traps.

In order to give an idea of the class of birds seen on an outing of this sort, I append a list of those noted by the different members, with notes.

1. VALLEY PARTRIDGE, *Lophortyx californicus vallicolus*. Plentiful in the brushy washes. The largest flock numbered about fifty.
2. MOURNING DOVE, *Zenaidura macroura*. In the middle of the day flocks of 30 to 40 hung about the cottonwoods.
3. TURKEY VULTURE, *Cathartes aura*. Half a dozen circled about on the 2nd.
4. MARSH HAWK, *Circus hudsonius*. One noted by Swarth over grain stubble.
5. WESTERN SHARP-SHINNED HAWK, *Accipiter velox rufilatus*. Several seen about head of Los Angeles river.
6. WESTERN RED-TAILED HAWK, *Buteo borealis calurus*. One seen in Eagle Rock valley. Pestered by large flock of horse finches.
7. PIGEON HAWK, *Falco columbarius*. Flying between cottonwoods, where large flocks of mourning doves had gathered.
8. DESERT SPARROW HAWK, *Falco sparverius phalena*. Several seen on telegraph poles.
9. AMERICAN LONG-EARED OWL, *Asio wilsonianus*. Flock of a dozen started from low juniper clump in Tejuja Wash by C. Richardson who secured two.
10. SHORT-EARED OWL, *Asio accipitrinus*. One started up from neglected grain field at edge of wash.
11. BURROWING OWL, *Speotyto cunicularia hypogaea*. In neglected grain field.

12. ROAD-RUNNER, *Geococcyx californianus*. Often started in grain field, edge of wash.
13. RED-BREASTED SAPSUCKER, *Sphyrapicus ruber*. Two noted on pepper tree near Burbank.
14. AMERICAN BARN OWL, *Strix pratincola*. Flew out of dense top of live oak.
15. RED-SHAFTED FLICKER, *Colaptes cafer collaris*. Very common in San Fernando valley, about orchards where fruit has fallen, also on ground in sycamore groves.
16. DUSKY POOR-WILL, *Phalacroptilus nuttalli californicus*. Swarth and Judson each took specimens; started from ground in wash.
17. ANNA HUMMINGBIRD, *Calypte anna*. Common about wild tobacco, now in bloom.
18. CASSIN KINGBIRD, *Tyrannus vociferans*. One seen on telegraph wire near West Glendale.
19. SAY PHOEBE, *Sayornis saya*. In wash among scattered brush; also in neglected grain field.
20. BLACK PHOEBE, *Sayornis nigricans semiatra*. Several noted on fences by roadside and on tree at edge of orchard.
21. CALIFORNIA HORNED-LARK, *Otocoris alpestris actia*.
22. CALIFORNIA JAY, *Aphelocoma californica*. About scattered oaks in washes.
23. AMERICAN RAVEN, *Corvus corax sinuatus*. There is a large "crow-roost" in the willows at the head of the Los Angeles river, and quite a number of ravens come in at dusk in pairs and small flocks of 4 or 5. Their larger size and croak readily distinguishes them from the crows. Judson shot one from a flock of three.
24. CALIFORNIA CROW, *Corvus americanus hesperis*. They arrive at the roost, noted above, at dusk, some going direct, while the larger flocks come in high up, dropping down in irregular curves when nearly over the trees.
25. WESTERN MEADOWLARK, *Sturnella magna ueglecta*. Flocks in grain fields.
26. SCOTT ORIOLE, *Icterus parisorum*. The one taken was probably a straggler from the Great Basin and Mohave Desert region.
27. BREWER BLACKBIRD, *Scolecophagus cyanocephalus*. In large flocks about cultivated tracts, corrals, and lawns.
28. HOUSE FINCH, *Carpodacus mexicanus frontalis*. Gathering in large flocks outside of cultivated districts.
29. WILLOW GOLDFINCH, *Astragalinus tristis salicauans*. Several seen by roadside.
30. ARKANSAS GOLDFINCH, *Astragalinus psaltria*. On telegraph wires with flocks of house finches.
31. WESTERN VESPER SPARROW, *Poocetes gramineus confinis*. Common on weed-grown grain fields.
32. WESTERN SAVANNA SPARROW, *Passerculus sandwichensis alaudinus*. In small flocks in grain fields.
33. WESTERN LARK SPARROW, *Chondestes grammacus strigatus*. Flocks by roadside especially near dry uncultivated stretches bordering ranches.
34. INTERMEDIATE SPARROW, *Zonotrichia leucophrys gambeli*. Flocks everywhere in washes and cultivated ground wherever suitable shelter.
35. BREWER SPARROW, *Spizella breweri*. Only met with occasionally in chaparral-covered sections.
36. SIERRA JUNCO, *Junco hyemalis thurberi*. Small flock about cypress row near Tuluca.
37. BELL SPARROW, *Amphispiza belli*. In dry brush-covered areas in washes.
38. SAGE SPARROW, *Amphispiza belli nevadensis*. A straggler from Great Basin district.
39. SAN DIEGO SONG SPARROW, *Melospiza cinerea cooperi*. In willows, head of Los Angeles river.
40. SPURRED TOWHEE, *Pipilo maculatus megalonyx*. Common in brushy wash.
41. ANTHONY TOWHEE, *Pipilo fuscus senicula*. Common everywhere where there is sheltering hedge or brush.
42. CALIFORNIA SHRIKE, *Lanius ludovicianus gambeli*. Pretty generally scattered; in washes, on telegraph wires, and about orchards.
43. AUDUBON WARBLER, *Dendroica auduboni*. One of our common winter visitants. Almost impossible to get out of sight of one.
44. WESTERN MOCKINGBIRD, *Mimus polyglottos leucopterus*. Not in song at this date but otherwise evident.
45. PASADENA THRASHER, *Toxostoma redivivum pasadense*. Common but shy.
46. CACTUS WREN, *Heleodytes brunneicapillus*. In cactus grown places. On November 1 found two nests almost completed, birds carrying lining material.
47. ROCK WREN, *Salpinctes obsoletus*. Several seen along cut bank of wash.
48. AMERICAN PIPIT, *Anthus pensilvanicus*. A dozen seen in barley stubble west of Burbank.
49. SAN DIEGO WREN, *Thryomanes bewicki charienturus*. Common in brushy parts of wash.
50. TULE WREN, *Telmatodytes palustris paludicola*. Only one seen, in cactus grown area, a mile from water.
51. PALLID WREN-TIT, *Chama fasciata heushawi*. Thick brushy clumps.
52. CALIFORNIA BUSH-TIT, *Psaltriparus minimus californicus*. In flocks about oaks.
53. RUBY-CROWNED KINGLET, *Regulus calendula*. Saw two in roadside peppers.
54. WESTERN GNATCATCHER, *Poliophtila cerulea obscura*. Large brushy clumps in wash.
55. BLACK-TAILED GNATCATCHER, *Poliophtila californica*. Common in brush of wash.
56. DWARF HERMIT THRUSH, *Hylocichla guttata nana*. One noted in brush at head of Eagle Rock Valley and another in willows of Los Angeles river.
57. WESTERN ROBIN, *Merula migratoria propinqua*. Only one seen, flying southeast across Eagle Rock valley.

FROM FIELD AND STUDY

Unusual Nesting Site of the Cactus Wren.—A ten years' experience with the cactus wren (*Heleodytes b. brunneicapillus*) has left a memory of fleeting glimpses and hard approaches that characterized the attempts to get better acquainted with this wary bird. They have a way of sliding out of the nest just before one gets a glimpse of it, then appearing momentarily as they dive out of sight behind some clump of brush or tangle of cactus. If followed persistently it becomes a case of hide and seek in which the observer gets little satisfaction. I found a remarkable exception on June 27th this year (1903) when taking a camping trip into the San Gabriel canyon. The road, which crosses the San Gabriel River wash, near Azusa, is bordered by a row of poles carrying high power wires. The two cross arms, carrying twelve wires, are about thirty feet from the ground. A cactus wren had selected the lower of the arms and built a typical nest on the north or shady side of the pole, filling the whole space between it and the large insulator. The beginning of such a nest on the smooth arm would be possible only in a country remarkably free from winds, but after completion, the insulator acted as a set screw to hold it in place.

The road which this line of poles borders is the main travelled road to Pomona, San Bernardino and Redlands, and probably used more than any other long distance road in southern California. In some cases, for instance, a driver on a load of hay would be brought about face to face with this shy bird. While we halted under the wires to investigate, the female alighted on the cross arm, with food in her bill for the young, which the nest contained.

Often birds are forced to adapt themselves to new conditions by the settlement of a country, which may destroy their natural nesting sites, but in this case there was no apparent reason, as the wash for miles contained hundreds of perfect nesting places, in cactus such as is usually chosen by the cactus wren.

That the bird sometimes does the unusual was noted in another instance, when I found a nest located in an apricot tree. It was the corner tree of an orchard which projected into a large wash, where the cactus and brush for some distance had been cleared. —FRANK S. DAGGETT, Pasadena, Cal.

Records of the Black-throated Sparrow.—So far as published records go the black-throated sparrow, *Amphispiza bilineata deserticola*, is only an accidental visitor to the Pacific slope of Los Angeles county. Joseph Grinnell records, in "Birds of the Pacific Slope of Los Angeles County," a specimen taken in the Arroyo Seco wash near Pasadena, Cal., April 10, 1897, and I learn today of an unrecorded specimen taken by Harry Swarth, in the spring of 1898 in the San Fernando Valley.

On September 12, 1903, while camped by an irrigation ditch on the road between two olive orchards, near Pacoima, a station on the S. P. R. R., a mile north of the Big Tejunga Wash in the San Fernando valley. I noticed a small sparrow moving about among the weeds on the roadside. It darted into the grove as I approached, playing hide and seek behind the low spreading olive branches. It proved to be a young male of the year, with black throat patch still incomplete.—FRANK S. DAGGETT, Pasadena, Cal.

Records from the Vicinity of Watsonville, California.—The following more or less rare birds were taken or seen in the region about Watsonville, California, during the summer and autumn of 1903:

Aythya collaris, Oct. 19, shot; seen several times.

Gymnogyps californianus, seen several times in mountains on north side of Pajaro Valley.

Elanus leucurus, seen, but not shot, Oct. 23.

Archibuteo ferrugineus, observed quite often during fall.

Falco anatum, Oct. 3, shot.

Coccyzus americanus occidentalis, observed in May and June along Pajaro River.

Cotaptes auratus luteus, shot Nov. 15.

Phalacroptilus nuttalli californicus, observed Oct. 25.

Chætura vauxi, Aug. 14, shot.

Aeronautes melanoleucus, observed in mountains on north side of valley.

Tyrannus verticalis, June 1, shot.

Pica nuttalli, Sept. 27, shot.

Corvus americanus hesperis, Oct. 21, shot.

Spinus pinus, quite abundant in September; many shot.

Melospiza lincolni, abundant in September and October; many shot.

Dendroica townsendi, common in fall; many shot.

Geothlypis tolmiei, fairly common in early September.

Wilsonia pusilla pileolata, abundant in early fall; many shot.

Mniotilta varia, Sept. 24, shot.

Mimus polyglottos leucopterus, Sept. 17, shot.

Certhia familiaris occidentalis, Aug. 31, Sept. 3.—J. S. HUNTER, Berkeley, Cal.

Aythya collaris in San Mateo Co., California.—The recorded occurrences of this duck in California are scarce enough to make new stations worthy of publication. An adult male was shot on the summit of the ridge north of Black Mountain (Monte Bello), about nine miles west of Stanford University, by Mr. Ernest Dudley, Nov. 26, 1903. There is yet little of the chestnut collar present.—WALTER K. FISHER.

Record of the Monterey Hermit Thrush (*Hylocichla guttata slevini*).—While collecting on the Butano Creek, San Mateo Co., Calif., June 20, 1903, I came across two of these little thrushes, a male and a female adult, described by Mr. Joseph Grinnell in the *Auk* for July, 1901.

The Butano Basin is part of an untouched portion of the humid coast forest lying between the Big Basin and Pescadero creek. Its sides which slope rather evenly but quite steeply from the creek to the ridges are covered for the most part with Douglas spruces (*Pseudotsuga taxifolia*), redwoods (*Sequoia sempervirens*), tan-bark oaks (*Quercus densiflora*), madrones (*Arbutus menziesii*), and considerable underbrush such as wild lilac (*Ceanothus thyrsiflorus*), live oak (*Quercus wislizeni*), azalea (*Rhododendron occidentale*), poison oak (*Rhus diversiloba*) and huckleberry (*Vaccinium ovalatum*), so that with the exception of a few rocky places grown with chaparral, the sun touches the ground but in spots. Bird life is rather scarce here and although quite a number of species exist in the Basin there are but comparatively few individuals.

The first thrush captured was seen sitting on a low twig of a wild lilac bush about half way up the side of the canyon. The ground was covered with dead oak leaves and the pale-colored bird was quite inconspicuous against the background. It was uttering its low *chuck chuck* call note and seemed preparing to fly when taken. The other bird was found a few hundred yards up the slope. It slipped noiselessly along behind the fallen logs and over dead leaves and did not stop or attempt to hide but only moved rapidly on with one eye fixed keenly on the pursuer, as is characteristic with the hermit thrushes.

These were the only thrushes seen above the main creek, where the russet-back (*Hylocichla u. ustulata*) was found keeping strictly to the bed of the creek.—HUBERT O. JENKINS.

Occurrence of Scott Oriole (*Icterus parisorum*) in Los Angeles Co.—At the outing meeting of the Southern Division of the Cooper Club, held on Oct. 31 and Nov. 1-2, 1903, in the San Fernando Valley, a number of birds were collected by the various members present, the most interesting of which was a male Scott Oriole shot by W. B. Judson on Nov. 2, and now in my collection. The bird is an adult and differs from spring males from Arizona only in that the yellow markings generally are of a darker, more greenish hue than is the case with any of the latter in my possession. Aside from the unusual locality the capture is of interest from the late date at which it occurred.—H. S. SWARTH.

The Ashy Kinglet

BY JOSEPH GRINNELL

Regulus calendula cineraceus new subspecies.

CHARACTERS—Similar to *Regulus calendula calendula* but larger; coloration throughout paler and grayer, less yellowish.

TYPE—♂ ad.; No. 1039, Coll. J. G.; Strain's Camp, Mt. Wilson, Los Angeles County, California; May 9, 1896; collected by J. Grinnell.

MEASUREMENTS OF TYPE (in inches)—Length 4.62; extent 7.25; wing 2.40; tail 1.96, tarsus .75; culmen .35; bill from nostril .26.

COLORATION OF TYPE.—Above pale ashy olive, becoming slightly greenish on rump; wings and tail sepia, edged with whitish; crown-patch flame-scarlet; beneath ashy-white faintly tinged with olive-buff, the latter being most evident posteriorly.

REMARKS—The two breeding birds in my collection, from the high mountains of Los Angeles county, are matched by a considerable number of winter specimens from various parts of southern California. These appear to indicate an arid mountain race of the Southwest, characterized by large size and gray coloration. Parallel geographic variants are exhibited in such genera as *Hylocichla*, *Passerella* and *Empidonax*.

THE CONDOR

An Illustrated Magazine of Western
Ornithology

Published Bi-monthly by the Cooper Ornithological Club of California

WALTER K. FISHER, Editor, Palo Alto
JOSEPH GRINSELL, Business Manager and
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R. E. SNODGRASS, Associate Editor

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EDITORIAL NOTES

It has grown to be the custom at the beginning of each year for a magazine, however modest its pretensions, to outline its 'policy' and catalog its 'special features' for the volume to come. But this year THE CONDOR will depart from the time-honored usage and will merely state that the six numbers issued during 1903 will be a sufficient guarantee for those to follow, and that if any promises remain unfulfilled these will be amply made good during 1904.

Mr. Frank S. Daggett, owing to his temporary migration to Chicago has resigned the associate editorship of THE CONDOR. The Club extends to Mr. Daggett its best wishes for a prosperous winter, and a speedy return. Mr. R. E. Snodgrass, of Stanford University, with the beginning of this volume assumes the associate editorship from the Northern Division.

We extend to Mr. Louis Agassiz Fuertes our best thanks for the drawing of the California condor, which is shown in the frontispiece of this issue.

The tenth annual meeting was held at the residence of president Henry Reed Taylor in Alameda, Saturday evening, January 9, and was one of the best attended in recent years. The election of officers resulted as follows: president, H. R. Taylor; senior vice-president, R. B. Moran; junior vice-president, Earle Mulliken; treasurer, Joseph Grinnell; secretary, Chas. S. Thompson.

At the annual meeting of the southern Division held January 7, Howard Robertson was elected president, J. Eugene Law, vice-president, Harry Lelande, secretary; W. Lee Chambers, division treasurer.

Several members interested in the exchange of bird-skins and eggs, wish to bring out a new edition of Taylor's Catalog. Persons interested are invited to write their ideas of changes in value, etc., to Mr. D. A. Cohen, Alameda, Cal.

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Revised to January 1, 1904.
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- Chambers, W. Lee, Santa Monica. 1897.
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 Jay, Antonin, 756 S. Spring St., Los Angeles. 1901.
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- Mailliard, John W., 307 Sansome St., San Francisco. 1894.
- Mailliard, Joseph, San Geronimo, Marin County. 1895.
- Mannon, Chas. M., Ukiah. 1901.
- Mathews, Miss Ellen, 2103 Union Avenue, Los Angeles. 1901.
- McCormick, A. I., 222 Laughlin Building, Los Angeles. 1895.
- McGregor, R. C., Philippine Mus., Manila, P. I. 1893.
- McLain, R. B., Market and 12th Streets, Wheeling, W. V. 1897.
- Miller, John M., Parlier, 1903.
- Miner, Dr. H. N., 2227 Dwight Way, Berkeley. 1903.
- Mitchell, P. C., San Jose. 1901.
- Moody, C. A., 215 East Avenue 41, Los Angeles. 1898.
- Moran, Nathan M., Stanford University. 1896.
- Moran, R. B., Stanford University. 1897.
- Nace, Chas. A., Santa Clara. 1900.
- Nelson, E. W., Dept. Agriculture, Washington, D. C. 1904.
- Newkirk, Dr. Garrett, 203 S. Broadway, Los Angeles. 1900.
- Newland, Lloyd, Palo Alto, 1903.
- Newsome, Miss Jessie L., 456 25th St., Oakland. 1903.
- Noack, H. R., 936 Poplar St., Oakland, 1901.
- Osgood, Wilfred H., Dept. Agriculture, Washington, D. C. 1893.
- Owen, Virgil W., Tajo Bldg., care U. S. Dist. Court, Los Angeles. 1896.
- Palmer, Dr. E. M., Laughlin Blk., Los Angeles. 1902.
- Palmer, Dr. T. S., Dept. Agriculture, Washington, D. C. 1903.
- Pemberton, J. Roy, 553 Liberty St., San Francisco. 1900.
- Pierce, Wright M., Box 166 Claremont, 1902.
- Pleasants, Mrs. J. E., Santa Ana. 1900.
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- Ray, Milton S., 44 Market St., San Francisco. 1899.
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- Ritter, W. E., Univ. of Cal., Berkeley. 1901.
- Robertson, Howard, Box 55, Sta. A., Los Angeles. 1896.
- Rooney, Dr. R. F., Auburn, 1902.
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- Sampson, Will F., Deephole, Washoe Co., Nevada. 1895.
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- Schneider, J. J., Box 1509, Anaheim. 1899.
- Sharp, Clarence S., Escondido. 1902.
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- Snyder, John O., Stanford Univ. 1900.
- Steinbeck, Wm., Sperry Flour Co., Stockton. 1897.
- Stephens, Frank, University and Filmore Sts., San Diego. 1894.
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- Swisler, Chas. A., Placerville. 1901.
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- Taylor, Loren E., Fyffe, El Dorado Co. 1897
- Thompson, Chas. S., Stanford Univ. 1900.
- Towne, George, Palo Alto. 1901.
- Treadwell, E. D., Prescott, Arizona. 1900.
- Ward, Harold C., 723 Paru St., Alameda. 1894.
- Warren, E. V., Pacific Grove. 1899.
- Watson, Murray M., Colfax, 1902.
- Welch, John M., Copperopolis, 1898.
- Wheeler, Roswell S., 1417 Grand St., Alameda. 1894.
- Wicks, M. L., Jr. 1101 Douglas St., Los Angeles. 1895.
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- Williams, John J., San Ysidro Ranch, Santa Barbara. 1900.
- Wilson, Mrs. A. J., 716 N. Mentor St., Pasadena. 1900.
- Wilson, Joseph Elmer, 1921 Alameda Ave., Alameda. 1903.
- Wood, C. H., 159 S. Orange Grove Avenue, Pasadena. 1895.
- Wright, Foster C., City Hall, Los Angeles. 1903.
- Wueste, R. C., 5th and Brooke Sts., San Diego. 1901.
- Zschokke, A. J., 2305 Clinton St., Alameda. 1897.
- Zschokke, Theodore C., Palo Alto. 1903.

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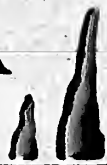
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THE CONDOR

A Magazine of Western
Ornithology



Volume VI

March-April, 1904

Number 2



W.K.F.

COOPER ORNITHOLOGICAL CLUB



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BLACK-THROATED GRAY WARBLER FEEDING YOUNG

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume VI

March-April, 1904

Number 2

Two Oregon Warblers

BY WILLIAM L. FINLEY

ILLUSTRATED BY HERMAN T. BOHLMAN

DURING the warm days of May when the mystery of life seems suddenly unveiled in a miraculous manner, I often frequent a woody retreat above the old mill dam on Fulton creek. A clump of firs and maples overhang where the limpid water whirls gurgling among the gray rocks. Star flowers gleam from the darker places of shade, white anemones are scattered among grass blades and ferns, and Linnæan bells overhang the moss-covered logs. This is the haunt of the black-throated gray warbler.^a

Just below the brow of the hill half a mile above the creek, a little spring bubbles out of an alder copse. Instead of trickling down the hillside like an ordinary streamlet, the water scatters and seeps into the spongy soil. This forms a wet place an acre or so in extent over which has grown a rich growth of swamp grass. This is the yellow-throat's^b home. I call it the "Witch's Garden."

I have a great admiration for the little feathered individual dressed in gray because his extreme shyness is a good indication of his finer nature. But there is a fascination about lying in the shade of the tall fir and listening to the fanciful call of yellow-throat. You may hear him and his mate almost any time of the day calling "Witch-et-y! Witch-et-y! Witch-et-y!" Yes, you may hear him but seldom see him.

What a little deceiver this golden sprite is! Looking for his nest is something like searching for the bags of gold at the rain-bow's tip. Among the feathered falsifiers this bird is certainly a leader. If you plod through the grass looking for

^a *Dendroica nigrescens*.

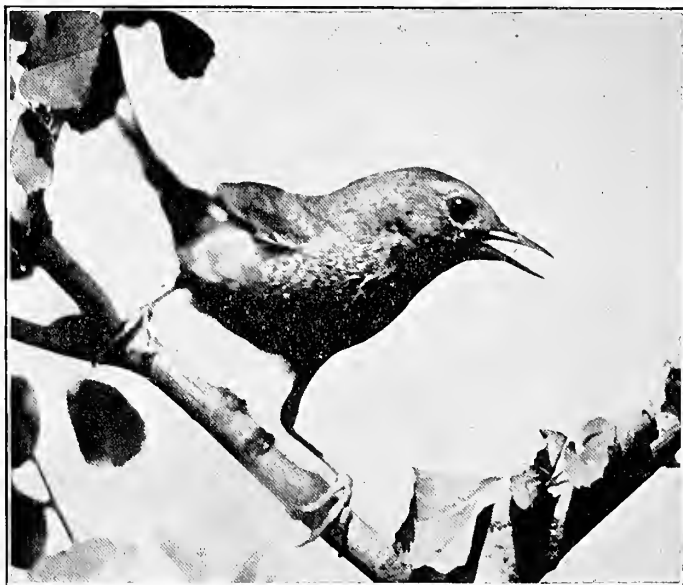
^b *Geothlypis trichas arizela*.

his straw basket of eggs, he'll call "Here it is! Here it is!" and a minute later he'll screech the same lie from another tussock ten yards away.

Why Nature put that jet black mask across his countenance is more than I can guess, unless it was to enable him to sing his falsehoods without a blush. His wife must be a model for she goes about gossiping without the sign of a veil. It's the Turkish custom reversed.

I never know just when yellow-throat is going to depart in the fall or just when he will return in the spring. I have never seen him going away or coming back. You may hear him one day and find your garden tenantless the following. Then, after a long silence, you wake up some morning and find he's there again, as if he had grown out of the ground during the night, like a toad-stool. After his return in the spring it's never long before he is scratching out a pit in a dry grass-bunch to line with bark strips and shreds.

No, for all my trouble I didn't find the nest and eggs, though I besieged the



FEMALE YELLOW-THROAT

swampy patch a dozen times. But one day as I skirted the edge of the garden, a streak of yellow darted from under my feet. She was brooding a basket of naked nestlings. Then I laid seige, not too close at first. I trained my camera on the most advantageous perches about the vicinity. I narrowed in day by day. The warblers soon grew accustomed to the click of the shutter. Then I leveled my Long-focus squarely on the nest.

Bird families are like human families in many ways. Sometimes a husband is as thoughtful about household duties as the wife, in other cases he rarely if ever assists in the care of the children. It is generally far more difficult to photograph a male bird than a female. Yellow-throat was a pleasing exception. He worked side by side with his wife and never feared or faltered for an instant.

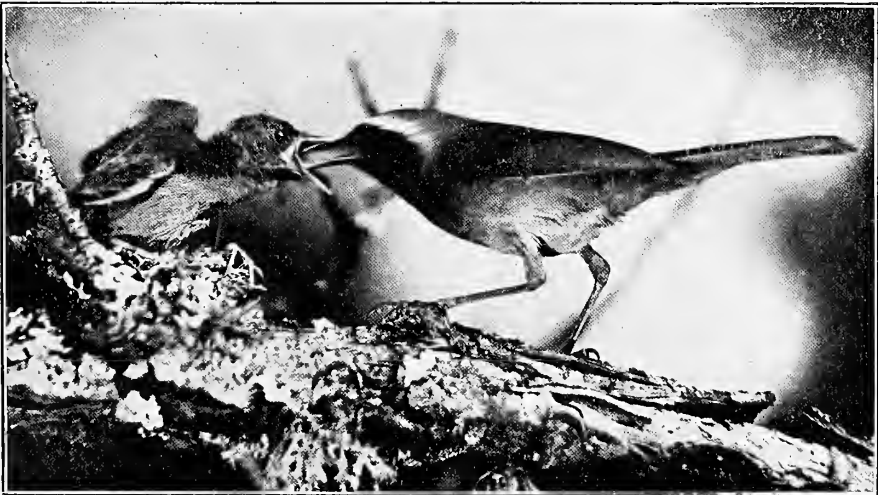
This was not the case in the black-throated gray warbler family. The pater familias seemed unavoidably detained away from home on matters of business or social importance most of the day when the children were crying for food. The wife took entire charge of feeding and caring for the nestlings. Only the male has the jet black throat, which is a distinctive mark of the species. The female wears a white cravat. But, to my notion, she is a deal more important in warbler affairs than her more highly marked mate.

Fortunately, just at the side of the fir sapling, in which we found the gray warbler's nest, was the sawed-off stump of a large tree. Upon this we could climb

and look into the nest. When I first parted the branches and looked into the feather-lined cup, two small nestlings stretched their skinny necks and opened their mouths with unmistakable signs of hunger.

The moment the mother returned and found me at the nest she was scared almost out of her senses. She fell from the top of the tree in a fluttering fit. She caught quivering on the limb a foot from my hand. But unable to hold on, she slipped through the branches and clutched my shoe. I never saw such an exaggerated case of the chills. I stooped to see what ailed her. She wavered like an autumn leaf to the ground. I leaped down, but she had limped under a bush and suddenly got well. Of course I knew she was tricking me! But I never saw higher skill in a feathered artist.

The next day my heart was hardened against all her alluring wiles and crocodile tears. She played her best, but the minute she failed to win, I got a furious berating. It was no begging note now. She perched over my head and called me every name in the warbler vocabulary. When she saw I was shoving the one-



MALE YELLOW-THROAT FEEDING YOUNG

eyed monster right at her children, she screamed "Fly! Fly! for your lives." Both the scanty-feathered, bob-tailed youngsters jumped blindly out of the nest into the bushes below. She outdid all previous performances. But not to be fooled, I kept an eye on one nestling and soon replaced him in the nest where he belonged. I looked for half an hour and then found the second dumpy little fellow sitting right before my eyes. Nature always hides such creatures from me by an almost invisible veil of mystery. I've seen a flock of half a dozen grouse flutter up into a fir and disappear to my eyes as completely as a cloud of fog before the sun.

It was easy enough to get pictures of the nest and young, but a very different matter to get the parents within shot of the camera. After frequent visits, however, the gray mother seemed to recognize the camera as harmless. This took time and an unlimited amount of patience, but it gave the best opportunities of studying the bird's habits.

The first day I really met the gray gentleman face to face was when I was trying to get a photograph of the mother as she came home to feed. She had

gotten quite used to the camera. I had the instrument leveled point blank at the nest only a yard distant. A gray figure came flitting over the tree top and planted himself on the limb right beside the home. He carried a green cut-worm in his mouth. No sooner had he squatted on his accustomed perch than he caught sight of the cyclops. With an astonished chirp, he dropped his worm, threw a back somerset, and all I saw was a meteor-like streak of gray curving up over the pointed firs. I doubt if he felt any degree of safety till he got across the Willamette,



MALE YELLOW-THROAT AND YOUNG

for he didn't get up courage enough to even enquire about the children the rest of that day.

I didn't think his lordship figured in home affairs at all, but I must have been mistaken. The next day the mother again tried to lure me from the nest. Just as she was putting on a few extra agonizing touches, I saw a glint of gray. The father pounced upon his feigning spouse. I never witnessed such a case of wife beating. I'm not an expert on bird ethics but such a performance would be some-

what scandalous among my own neighbors. Maybe he blamed his wife for my interference or he may have been tired of her fooling, at any rate she quit her deceiving antics and soon led her children off through the bushes.

Berkeley, Cal.



FEMALE BLACK-THROATED GRAY WARBLER FEEDING YOUNG

Nesting Habits of the Black-headed Grosbeak

BY ANNA HEAD

DOES the same pair of birds return to their old nesting-site? This is a question difficult to determine, as, from the nature of things positive evidence is almost impossible to secure. In some cases a ring has been fastened about the leg of one of a pair, and so it has been proven that he returned several years in succession to the same locality. But from slight indications pointing in the same direction, even though no positive proof is forthcoming, I am inclined to think this is commoner than usually supposed. The evidence which has convinced me may not be so cogent to another as to myself. It depends chiefly upon individual traits of character and of song observed for two successive years in a small valley in Mendocino county. The bird to which I paid most attention was the black-headed grosbeak (*Zamelodia melanocephala*), and at the end of the first summer I felt personally acquainted with several pairs.

In one pair the female was brave and did a large part of the feeding, brooding the birds willingly in my presence, while the male circled about and sang incessantly. This pair chose a damp willow thicket, the home of the chat, for their nest, and placed it rather high on a swaying twig of willow, stayed by two crossing blackberry vines. I had the pleasure of watching the whole course of rearing the young, and saw where they were led off to the right along the edge of the swamp, while still totally destitute of tails and very downy about the head. This I consider a rather unusual nesting site, as the grosbeak seems to prefer dry hill-sides and manzanita, madrone, or hazel bushes. So when the second year I found

a nest, also placed high in a clump of willow and blooming elder, within three yards of the first, the presumption in my mind was strong that it was built by the same pair. When the mother proved to be a brave bird, and stood my gaze steadily, and when, as last year, this brood was the first to leave the nest, and took the same course through the bushes, my conviction amounted to certainty. Another pair last year had chosen a hazel bush overhanging a little path leading to the spring. Of these I wrote in my notebook that they were very wild and that the female refused to go on the nest as long as I was in sight, although I went to a distance and kept very quiet. Her mate went on at last, but he, too, was a timid bird. This year the same nest was in place, for slight and apparently carelessly built as they are, they will outlast many a more elaborate nest, and endure the storms of winter remarkably well. In the very next bush, and at about the same height was another nest, with a pair whose actions were exactly like these of last year. When I looked at the nest, although I did not touch it, the female raised such an outcry that she drew about her a pair of tanagers, a handsome male spurred towhee, a pair of Macgillivray warblers, and a Cassin vireo, who had a great deal of advice to offer in his loud, preaching tones. The male grosbeak satisfied himself with taking up a post of observation on a high twig, and driving away another male, whose sympathy was evidently offensive to the husband. I have noticed that each pair regarded as their private property a circle of perhaps a hundred yards about their nest, and resented the appearance in that ground of any of their own race. They were never far enough away from another nest—however, to be out of car-shot, and one male seemed to vie with another in musical display, at leisure moments.

Another pair had managed to conceal their nest from me last year, but I knew its whereabouts in the thick woods, and had noted the song as having a peculiar refrain of four descending notes. This year I traced the male by this song, and happened to sit down at the very foot of a young madrone in which the nest was placed. I found this pair most engaging and fearless, and although the young were nearly fledged, I felt repaid for the time that I gave to watching them. I found that the male was much the bolder bird, although the female, after starting back several times at sight of me, overcame her fear and delivered the mouthful of green caterpillars which she was carrying. I found that they fed in perfectly regular rotation, at intervals of about twelve minutes, and that the one bird remained on guard while the other was seeking food. They spent this time differently, however. The male always took up a position on a tree near by and sang till his wife returned. Once after a prolonged absence, he grew silent and anxious, and finally went off to look for her. When she was left in charge, she either sat silently in the same tree or on the edge of the nest, seeming to have a soothing effect on the young, who slept as long as she was there. She would not stir and waken them for any movement of mine. The different influence of the two parents was marked. When the father was heard returning with his loud, cheery song, which did not seem to be interfered with by his big mouthful of wriggling worms, every youngster was alert and standing on tiptoe to get first taste. The father always brought more food than the mother, and the fledglings seemed inspired by his bustling ways to be adventurous. One stretched his wings and crawled up to the edge of the frail nest, and I could see that it would not be long before he would fly. Only the father attended to the cleansing of the nest as long as I watched them. The father's singing so constantly near the nest, combined with his generous feeding, would certainly make an impression on the

memories of the young birds, and help to mould their song when they come to maturity. They noticed the father's song every time before he came in sight.

The male grosbeak is certainly most devoted and cheerful about his domestic duties. He sings to his mate all through the period of incubation, sings while feeding the young and during the anxious time of their first flights, and I have even seen him sitting upon the eggs and singing merrily.

Another reason why I think that the same pair returns to the same nesting site in successive years is that in several cases I have found nests of different years in the same small tree. In one manzanita bush, about ten feet high, were three nests, one almost fallen to pieces, one of last year, and a fresh nest with a bird on it. It may be argued that a second bird chose the site because it was eminently suitable; but where there are so many shrubs all alike, I do not think one can be considered more suitable than another. A more likely suggestion is that the young birds might return another year to the neighborhood of the nest in which they were reared. Further observations on the plumage of the birds would settle this point as it takes several years for a male grosbeak to attain his full beauty of plumage.

Destruction of Birds by Wires

BY W. OTTO EMERSON

IF one does not happen to live where he can observe the disastrous effect upon bird life of numerous telephone, telegraph and electric power wires, which are strung along our highways, across lines of migration or favorite paths to feeding grounds, he would be surprised at the number of our shore birds destroyed annually. Within the past few years several instances have come under my observation which seem worthy of record.

The first case was noted September 8, 1898, in connection with the telephone line which, passing over the salt marshes, joins Haywards with a landing on the bay shore, some four miles west. Only two wires are used, which are attached to fourteen foot poles set some twenty feet out in the Salicornia to the right of the roadway. Beyond this, on both sides of the road, the marshes are cut up for miles into a series of checker-board ponds for salt water evaporating purposes. In August, September and October these ponds are a mass of glittering white—more or less as the water has been run off. Small shore waders come by the thousands to feed upon the mass of larvæ which collect about the edges of the ponds. On the date mentioned I drove over the road for the first time to find what fall migrants had returned. On picking up eight or ten dead sandpipers from the road, I was at first unable to make out what had killed them. I then noticed a fluttering bird out in the marsh in line of the phone wires, and found it to be a phalarope with a broken wing. This revealed the secret. I soon observed a flock go by from one pond to another but saw none of them strike the wire that trip, but later saw several individuals knocked out of a flock of sandpipers. I picked up forty dead birds that lay along the road and about the marsh. Some were under the wires while others would be flung off ten or twenty feet by the impact of hitting a

wire, in rapid flight. A little farther on I found a bird hanging by the wing and another by the neck to the wire. Most of those picked up were found to be cut across the front of the head or breast. Some were cut into the flesh deeply; a few were beheaded.

I made the next day another trip over the road and found the remains of thirty odd birds mostly *Phalaropus lobatus* and *Ereunetes occidentalis*. Quite a number of *Tringa pacifica* and *T. minutilla* were among those found on my first visit.

As I watched the flocks when they came in from the bay, or flew from one set of ponds to another, it was observed that their line of flight would just be in range to hit either of the two wires. Coming with such a zig-zag and rapid flight they were not able to see the two wires in time to dip or rise in order to avoid being caught by the trap. If one of the foremost birds of the flock struck the wire and fell, the rest would turn their course somewhat; more from seeing their falling companion, I think, than from being able to distinguish at the speed they were going, the real cause of the disaster.

On my last visit in this direction, May 11, 1903, I found five *Phalaropus lobatus* in full spring plumage, several *Tringa minutilla*, *T. pacifica*, and *Ereunetes occidentalis*. Larger birds than these would not be so liable to come in contact with the wires, flying as they do considerably slower and higher in the air.

This destruction of shore birds goes on night and day the year round. I asked some of the salt-pond owners if they noticed birds flying against the wires. They said some mornings after the spring or fall flights, they had seen dozens lying along the road. Cats from warehouses and dwellings had learned the convenient larder and had grown fat, while Japanese and Italian workmen imitated the cats.

Mr. F. H. Hollins of San José mentioned to me some years ago that he had picked up two or three dozen phalaropes one morning (Nov. 1898) along the main thoroughfare, five miles east of the salt marsh. They lay under the wires and he thought they must have been killed during the night flight.

Mr. Clark P. Streater picked up on the main business street of Santa Cruz, California, in September, 1903, a black rail, *Porzana jamaicensis*, killed by overhead wires.

On June 29, 1903, Prof. F. E. L. Beal and myself found one of the oddest tangles into which a bird ever managed to get itself. It was a great horned owl, on one of the canyon ranches, and was wound up in a barbed wire fence. He was hanging by the wing, wound several times around the wires, so that it was impossible to extricate him. The fence had only two wires, and led down a slope into the upper end of a gully or canyon. Some of the sandy hill had slid down leaving the wire with several posts swinging free, some six or eight feet in air, for a distance of several hundred yards. No doubt the owl, intent upon some prospective midnight lunch, as he flew along down the gulch, came in contact with the top wire. This, having caught his fluffy feathers, naturally wound Bubo tight in its barbs. The legs were badly cut by the struggle for freedom which was further evidenced by the feathers about the neck. He had evidently used his beak as well as feet. In this age of barbed wire there are more ways than one by which an animal may come to an untimely end.

A Sandhill Crane's Nest

BY EDWARD R. WARREN

WITH A PHOTOGRAPH BY THE AUTHOR

IN the western part of Gunnison county, Colorado, between the slope of Ragged mountain and Muddy creek, is a high, rolling plateau, of an elevation of 8000 feet or more. In amongst the hollows of this plateau are many little lakes or ponds, varying in size from fifty to sixty feet in diameter to a hundred yards or more. During the past three seasons I have been about this country very much, surveying, and every season have seen sandhill cranes (*Grus mexicana*) flying overhead and heard their melodious ? notes, but did not find a nest until June 5, 1903, when, while chopping out a line across the top of a little knoll just south of a small pond, my assistant disturbed a crane. This kept flying about and croak-



NEST OF SANDHILL CRANE, GUNNISON COUNTY, COLORADO

ing so anxiously as to make him think there was a nest there, and going to see he found it, with two eggs. When I came along he showed it to me.

Out about twenty feet from the shore, was the nest, on a bare space among some tussocks of grass which lay more or less in a line. The water was not very deep but the mud was and I could not get to the nest as there was nothing of which to make a bridge, so I had to content myself with a careful examination from the shore.

The nest was irregular in shape, about two feet across and made of dead marsh grass. On this platform, such as it was practically, lay the two large eggs, looking, my man said, something like turkey eggs. They were rather a light brownish green, spotted and blotched all over with light reddish brown, the spots being thickest and largest on the large end of the egg, though there did not appear to be any great difference in the size of the ends.

The lake was about one hundred by one hundred and twenty-five feet, lying in a hollow, all surrounded by the hills and its shores thickly covered with alders and small aspens, one tall charred spruce stump standing on the shore near the nest.

I made up my mind when I saw the nest what my next Sunday's work would be, and when Sunday, the 7th came, I went to the spot with the camera and took several photographs from different points of view. As I was going through the brush around the shore of the lake the bird flew off, and all the time I was there kept flying about overhead, often accompanied by her mate. After I finished there I visited a number of other lakes and saw two more cranes but found no nest.

A few ducks also nest about some of these ponds though not so many as in past years. Large game was formerly very abundant here but has mostly been killed off or driven away and the birds are also much scarcer.

Colorado Springs, Colo.

Midwinter Birds at Palm Springs, California

BY JOSEPH GRINNELL.

THE small village called Palm Springs lies in Riverside county, California, about seven miles south of the Southern Pacific station of the same name. It is situated on the floor of the extreme western arm of the Colorado desert. This arm terminates on San Geronimo Pass which separates the lofty San Bernardino range on the north from the precipitous San Jacinto mountains on the south. Palm Springs itself is close to the abrupt base of San Jacinto peak, and is at about four hundred feet elevation. But the desert sinks away gradually to the southeastward until in places it is two hundred and fifty feet below sea-level.

The plant-life of this belt is startling to a novice in its strangely adapted desert forms. In the vicinity of Palm Springs the desert floor is more or less closely dotted with several peculiar species of cacti, the creosote bush, screw-bean, mesquite and various Daleas, one of which is called locally the smoke-bush, from the filmy bluish aspect presented by a thicket of it at a distance. At the mouths of canyons and in the desert in the vicinity of springs, grow clumps of giant palms, which give a tropical air to the landscape. Cottonwoods flourish wherever there is sufficient underground water supply. The remains of numerous small annuals attest to occasional rains which, though rare, result in a luxuriant but brief-lived additional vegetation. These leave a crop of seeds to be garnered in the rest of the year by the remarkably numerous kangaroo rats, as well as by various birds, and granivorous insects such as ants.

From all accounts the summer temperature of this region must be well nigh unbearable. We were told that the town of Palm Springs is deserted during the summer months by everyone but Indians. But the winter climate is truly delightful—the days and nights perfectly clear, a little warm for comfortable tramping in the middle of the day, but cool and pleasant the rest of the time. The excessive dryness of the atmosphere is a bit disagreeable, resulting in chapped hands, and thus increasing the danger of arsenic-poisoning if one happens to be preparing specimens continuously.

Mr. Joseph Maillard and myself were recently fortunate enough to participate

in a collecting trip into this interesting locality. Nine days were industriously occupied, from December 25 to January 2, inclusive, and a gratifying array of specimens and information proved the success of the undertaking. We made our headquarters at the winter resort or "hotel," which consists of numerous cottages hidden away within a fine old orange orchard. During our stay we were joined for a few days by two other Cooper Club members. Mr. French Gilman of Banning, who knows this region thoroughly, assisted us greatly in learning the whereabouts of things. And Prof. Kellogg of Stanford found *Mallophaga* of interest on certain of our mammals as well as birds. Mr. George Maxwell, a very companionable gentleman from Portland, Oregon, also proffered his aid whenever opportunity offered.

Except in certain small areas birds were exceedingly scarce. In some parts of the desert quite a number of individuals of the forms that appear to live without water were to be found; while in other and apparently similar portions all species were conspicuous only by their absence. Around the little village many varieties were present in numbers; and yet at some of the abandoned farms and orchards within a mile or so of it, and where there were well-filled irrigating ditches, trees and shrubbery—apparently ideal spots for bird life—there were almost no feathered inhabitants, except perhaps a few Audubon warblers or kinglets. The favorite locality for most species was within a semicircle made by the "big ditch," flowing at this season, where mesquites and other bushes attained almost the dignity of trees. This spot was the feeding ground of a combined flock of desert and valley quail, containing sixty or eighty individuals. These birds were extremely wild, made so by the constant persecution of the Indians and whites living at Palm Springs nearby, and would scatter in every direction when disturbed, running with remarkable speed, occasionally flying and in any case seeking shelter on the steep, rocky mountain side adjacent, where it was useless to try to follow them.

The following list is intended to give any person who may contemplate a visit to Palm Springs an idea of what to expect in the bird line in the winter season. Mr. Gilman told us that later, during the spring months great numbers of migrants were in evidence. It is suggested that this place, or any other up toward San Geronio Pass, would make an ideal station for making observations on migrating land birds, on account of the peculiar topography probably one of the best in California.

In preparing the present paper I hereby acknowledge the cordial assistance of Mr. Joseph Mailliard, whose observations are incorporated along with my own.

Lophortyx gambeli. Desert Quail. *Lophortyx c. vallicolus*. Valley Quail. Numerous in the vicinity of water, as along irrigating ditches and in canyons. The desert or Gambel quail was apparently the commonest species; though the two were often found together so that it was difficult to judge of their comparative abundance. Their notes and flight differed to some extent, and Mr. Mailliard contributes the following remarks in this regard. "The notes of the desert quail differ from those of the valley quail in variety, and to a certain extent in character, though they have some notes in common. The 'crow' of the latter consists of three notes, varying in length and accent according to the call given, in one case the last note being a falling one. The 'crow' of the desert quail, while rather similar to the other, has two additional notes at the end, rendered in a softer tone. Besides the alarm calls the valley quail has a few twittering or conversational notes, while the other species has a lot of these, quite varied and often given in a

way that seems remarkably loud to one accustomed only to the notes of the former. Another peculiarity of the desert quail is the queer sound that it makes as it rises from the ground on being surprised into flight—the sort of screeching cackle, on a small scale, that a hen makes when frightened from her nest.”

Accipiter v. rufilatus. Western Sharp-shin. Mr. Mailliard saw one quietly flitting along some pepper trees near the Springs, doubtless on the lookout for robins.

Accipiter cooperi. Cooper Hawk. Single individuals were several times seen flying along the base of the mountain. Their approach was usually announced by the excited chirping of a scattering flock of linnets, which, however, kept at a respectful distance in the rear.

Buteo b. calurus. Western Red-tail. Two or more roosted regularly in some tall cottonwoods near the Springs, being generally seen as they were arriving at night. Mr. Gilman showed us a nest, from which he had secured eggs many years ago, built in a cranny on the face of a cliff at the mouth of Andreas canyon.

Bubo v. pacificus. Pacific Horned Owl. Heard nightly about the Springs, especially just at daybreak. Prof. Kellogg flushed one from among some boulders on the mountain side back of town.

Geococcyx californianus. Roadrunner. Fairly common.

Dryobates p. turati. Willow Woodpecker. Mr. Mailliard found a bird of this species in Andreas Canyon, and was also sure of the identity of one seen near the Springs. The willow woodpecker is doubtless only a winter visitant from the westward.

Dryobates s. bairdi. Texas Woodpecker. Several were seen and one secured out on the deserts southeast of the Springs. They were shy and led a hot chase, flying long stretches to alight but a minute or so on some cactus. An individual of this species was found in Palm Canyon working on a palm trunk; another was almost daily seen in the cottonwoods close to the hotel.

Sphyrapicus r. daggetti. Sierra Sapsucker. Mr. Mailliard secured a typical example of this bird. The characteristic borings of sapsuckers were to be seen abundantly on pepper trees about town.

Colaptes c. collaris. Red-shafted Flicker. Common about the Springs and in Palm Canyon. Mr. Mailliard secured an interesting “hybrid,” with the under surface of wings and tail yellow and malar patches red.

Calypte anna. Anna Hummingbird. A number were noted at the canyon mouths and about the Springs.

Calypte costæ. Costa Hummingbird. Two males in full plumage were taken and others seen. They were feeding about a red-flowered desert shrub.

Trochilus alexandri. Black-chinned Hummingbird. One was taken and several others seen. I was not previously aware that either the black-chin or Costa hummer remained throughout the winter in any part of California.

Sayornis saya. Say Phœbe. Fairly common. But as usual in winter seen only solitarily, mostly on the plains.

Sayornis nigricans. Black Phœbe. Several noted in Palm Canyon, and one at the Springs.

Carpodacus m. frontalis. House Finch. Abundant everywhere, especially in the vicinity of water; many old nests in palms.

Astragalinus psaltria. Arkansas Goldfinch. Often seen about the Springs, and in brush along the ditches out on the desert.

Chondestes g. strigatus. Western Lark Sparrow. One small flock and three individuals were encountered close about the Springs.

Zonotrichia l. gambeli. Intermediate Sparrow. A few were met with in

brush out on the desert. Every night quite a number came into the orange trees about the hotel to roost.

Spizella s. arizonæ. Western Chipping Sparrow. The only individual detected was taken by Mr. Mailliard near the Springs.

Amphispiza b. deserticola. Desert Black-throated Sparrow. Common on the desert and up the lower slopes of the mountain, occurring in scattering flocks of from six to twenty or more. These companies were usually in motion and hard to follow, as the birds had a way of flying off one at a time in rapid succession, retreating over a hill or behind thickets; so that the whole flock seemed to vanish. It was only by singling out one particular bird and firing the instant an opportunity offered that we were able to secure many specimens.

Amphispiza nevadensis. Sage Sparrow. Fairly common in the desert; met with either singly, or but a few together feeding on the ground beneath bushes, and when pursued flying from one bush-top to another.

Melospiza c. cooperi. San Diego Song Sparrow. Two specimens, doubtfully referred to this subspecies, were obtained along the willow stream in Palm Canyon.

Pipilo c. senicula. Anthony Towhee. Two were secured along the main ditch near the Springs.

Pipilo aberti. Abert Towhee. Seen only in the immediate vicinity of the Springs, where the birds in pairs hopped familiarly among shrubbery. Mr. Mailliard found several on the hillside just back of town. As already recorded (CONDOR V, p. 12), Mr. Gilman has found the species breeding here and on the Colorado Desert to the eastward. Palm Springs is doubtless its westernmost station.

Phainopepla nitens. Phainopepla. Quite common in mesquite patches feeding on mistletoe berries.

Lanius l. excubitorides. White-rumped Shrike. Evenly distributed wherever we went, but not numerous. One was discovered in the orange orchard near the hotel industriously battering a linnæ. The squalls of its victim quickly attracted a sympathetic crowd of onlookers which commented vociferously. After what seemed considerable time the linnæ broke loose and escaped into a bush, panting but apparently little the worse for wear. A sample of the butcher-bird's work was found in the shape of a kangaroo rat (*Dipodomys merriami simiolus*) which was skilfully wedged between forking twigs of a smoke-bush. The subspecies to which our Palm Springs shrikes should be referred is doubtful. They present characters distinct from those of both typical *gambeli*, and *excubitorides* as occurring in Arizona. It is high time that some one thoroughly equipped worked up the western forms of *Lanius* of which there are several well-marked races as yet undescribed.

Dendroica auduboni. Audubon Warbler. This species, so widely distributed in winter, was present in usual numbers in the cottonwoods about the Springs.

Anthus pensilvanicus. American Pipit. One was seen in company with bluebirds on an irrigated field close to the Springs.

Oroscoptes montanus. Sage Thrasher. One specimen was secured and a few others seen in creosote brush southeast of the Springs. At a moderate distance this bird bears a remarkable resemblance to the cactus wren in behavior and general appearance. At least I am sure I confused the two repeatedly unless very close to hand.

Mimus p. leucopterus. Western Mockingbird. One individual was often seen about the hotel, and one or two others were found in Palm Canyon.

Toxostoma lecontei. Leconte Thrasher. This wary bird we found to fully warrant the many stories we had heard of its extreme shyness. Mr. Gilman, who has probably had as much experience with Leconte thrashers as any one, showed us where to find them, and how to secure specimens by running them down. The latter procedure I found rather discouraging myself, for I failed to get a single bird. But it was like watching a mimic battle to see Mr. Gilman charging across the country, dodging cactus clumps or jumping clear of them, as he could, every now and then halting abruptly to aim and fire. His success proved the correctness of his methods.

Toxostoma crissale. Crissal Thrasher. Mr. Mailliard secured one specimen and saw another among the mesquites along the big ditch south of Palm Springs. In this same locality Mr. Gilman has found the species nesting. (CONDOR IV, p. 15.) This marks the westernmost limit of the bird's range.

Heleodytes b. couesi. Cactus Wren. Fairly common out on the desert; and also, as surprised me when I first found them, in Palm Canyon. In the latter locality they made themselves at home among the drooping dead leaves beneath the green heads of the lofty palms. The birds could be plainly heard rattling about inside, but were difficult to drive out. Doubtless such palm-leaf bowers afforded insect food in plenty, as well as a well-protected retreat. The San Diego and canyon wrens had taken similar advantage of the palms. The specimens of the cactus wren secured, when compared with numerous other skins from Arizona and the San Diegan district present no tangible differences. A fairly careful study of my material points towards the correctness of Mr. Swarth's conclusions (CONDOR VI, p. 17) in regard to the absolute uniformity of the race as occurring in the southwestern states.

Salpinctes obsoletus. Rock Wren. Uniformly common on the boulder-strewn mountain sides as well as among mammal burrows out on the level desert.

Catherpes m. punctulatus. Dotted Canyon Wren. This unique songster was numerous about and within the buildings at Palm Springs. In the morning before it was really bright daylight we were often aroused by these birds scratching about on the roof, sometimes coming into our rooms through spaces under the eaves. In fact Mr. Mailliard chased one under the bed. But the birds refused to be cornered, for they were evidently familiar with every exit. Their hoarse notes resounded lonesomely through the house; and now and then burst forth the beautifully-modulated, descending series of notes which never fails to thrill one with delight. Aside from the immediate neighborhood of the Springs, we found the canyon wren only in Palm Canyon, where many were detected as they dodged in and out of crevices between huge granite slabs, or scurried about within the reversed tussocks of palm leaves.

Thryomanes b. charienturus. San Diego Wren. Very numerous in Palm Canyon; also fairly common in the mesquite brush along the big ditch. This form is here probably only a winter visitant from the San Jacinto region a short distance to the westward.

Thryomanes b. eremophilus. Desert Bewick Wren. I secured a single bird, clearly referable to this form, on the desert four miles southeast of Palm Springs, December 30. It was a female in unworn plumage, and differed markedly from the San Diego wren. In fact when I first saw the bird I mistook it for a rock wren; for it was skipping from weed to weed and alighting on the ground much after the fashion of the last named bird. Its pale coloration and large size readily distinguish it from the San Diego wren. This was probably a winter visitant

from the eastward, for the skin seems identical in every respect with others from the Huachuca mountains, Arizona.

Psaltriparus minimus. California Bush-tit. Small scattering flocks were frequently seen in the pepper trees and cottonwoods close around the Springs.

Auriparus flaviceps. Verdin. A common bird, from a desert standpoint. Mr. Gilman has described its nesting in this vicinity elsewhere (CONDOR IV, 88).

Regulus c. cineraceus. Ashy Kinglet. Fairly common in the trees about the Springs, and also in brush along the ditches to the eastward.

Polioptila c. obscura. Western Gnatcatcher. Several were seen, and one shot for identification, close about the Springs. They were generally in the company of bush-tits.

Polioptila plumbea. Plumbeous Gnatcatcher. A common species, being found in pairs, or sometimes half-a-dozen within a few yards' radius, in mesquites, or any other sort of desert brush for that matter. The call-notes of this species are quite different from those of either of the others, but defy intelligible description. Mr. Gilman told me this species occurs to the westward about fifteen miles, beyond which he has not seen it. The black-tailed gnatcatcher is common at Banning and a few miles to the eastward. But he has never found the two species intermingling. There is apparently a hiatus of several miles left between their ranges where neither have been seen except for the single straggler recorded beyond.

Polioptila californica. Black-tailed Gnatcatcher. I secured a lone specimen, a female, on January first, two miles east of Palm Springs. I heard and recognized its call, and singled it out from among a scattered band of the plumbeous. The black-tail was being set upon and vindictively harried by a pair of plumbeous, which very plainly indeed resented its intrusion upon their domain. This bird was doubtless a straggler from the direction of Banning.

Hylocichla g. nana. Dwarf Hermit Thrush. Several observed in canyons along streams which make down from San Jacinto Peak.

Merula m. propinqua. Western Robin. A few, perhaps a dozen in all, were constantly present in the pepper trees about the Springs.

Sialia m. occidentalis. Western Bluebird. Found in flocks frequenting mesquite tracts where they were feeding on mistletoe berries. In Palm Canyon great numbers were in evidence among the giant palms. A dozen or more would be seen clinging to each pendant cluster of dates obviously attracted by the fruity outside pulp. While thus feeding upon the fruit of the palms, the noise made by the seeds dropping into the dry brush at the bases of the lofty trees was so great as to give the impression, before the true cause was discovered, that some large animal was trampling through the undergrowth.

Sialia arctica. Mountain Bluebird. Mr. Mailliard saw four near Palm Springs and secured two.

The Elf Owl in California

BY HERBERT BROWN

WITH the possible exception of rare stragglers I am of the belief that the Colorado river marks the western boundary line of the habitat of the elf owl (*Micropallas whitneyi*.) I have reasons to think that this statement will hold good. In Arizona, during the nesting season, the natural home of the

elf owl is in the deserted woodpecker holes common to saguara or giant cactus of the desert region of the country. Strangely enough this plant (*Cereus giganteus*) also finds its western line of demarkation in the same stream. To the general observer the characteristics of the country, on either side of the river, are identical, but conditions, evidently, are different. On the Arizona side the saguara is widely distributed and is, frequently, of great growth, but in California it occurs only as stragglers in an unresponsive land. To locate the elf owl in California it became necessary to locate this cactus there also. For a time the location of one promised as many difficulties as the other. In reply to numerous inquiries, verbally and by letter, I learned that a few straggling specimens of the saguara were to be found in the Duncan Flats, or as it is known to some people, the Senator Mine Basin, between twenty and twenty-five miles north of here, on the California side of the river, and that others were to be found opposite Ehrenberg, also west of the river, about one hundred miles further north. So far as I now know there are none in the intermediate country.

Hereabouts the nesting season of *Micropallas whitneyi* may be said to commence about the end of the first week in May, and to continue at intervals throughout the month. Knowing this I had arranged to examine the cactus on the Duncan Flats on or about May tenth, (1903), but was delayed till the seventeenth. At that time the Colorado river was over-running its banks and travel was both difficult and dangerous, the intersecting sloughs being full of water and their bottoms slippery and uncertain. All told there are probably a dozen saguaras in the flats, and they are scattered over a radius of several miles. The large ones contained numerous woodpecker holes and because of their apparently worn exterior had the appearance of being occupied. The first one examined stood at the intersection of several small gulches; it was set with numerous arms, all woodpecker bored, and offered an ideal nesting place for numerous small owls, but to my surprise, the only life it contained was a nest of gilded woodpeckers (*Colaptes chrysoides*.) Although I cut into and carefully examined every promising hole I did not find even a feather of the bird I was looking for. Because of my long familiarity with this owl and its ways I generally know where to expect it, but here the best of indications went for nothing. Such a tree in southern central Arizona would have been richness itself. Although I examined everything in that direction I found nothing till I reached the last cactus in the upper end of the Basin. In this one, at an elevation of about twenty feet, I found four partially incubated eggs of an elf owl. They were black and apparently cold. From a hole on the other side of the cactus an owl flew to the opposite bank of the wash in which the cactus was standing, gave one of the characteristic cries, then flew to a bush further up the gulch where it was taken. It proved to be a nesting female and was, undoubtedly, the mother of the four eggs. This was my first find of the bird and its eggs in California. In the topmost hole of the same cactus I found five eggs of a sparrow hawk. They were partially incubated but not sufficiently so as to injure them. In another cactus some three hundred yards north and in the same wash, I found a second nest of the elf owl. It also contained four partially incubated eggs, and, in this case, the female was on the nest. High up in the same cactus, was the nest of a woodpecker. The young in it were very noisy. I did not see the parent birds and did not interfere with them. In still another cactus I came across a Mexican screech owl (*M. a. cineraceus*.) and four young ones. The latter were about ten days old. A nest of Gila woodpeckers (*Melanerpes uropygialis*) completed my day's work in the field, but not in getting home. I could not find a male owl although I looked high and low for them.

That the elf owl is a resident of California is now settled beyond doubt, but I seriously question their being far west of the Colorado river. On the Arizona side, immediately opposite Duncan Flate, is an extensive growth of saguaras, and in them scores of favorable nesting sites. These conditions in southern central Arizona would produce at least twenty to one on the Colorado. I am not very familiar with the desert flora west of the river, although I crossed the country twice, once by stage and once by horseback, but that was so long ago that I may be pardoned for forgetting. I do know, however, that the upper reaches of the desert have a heavier growth than the middle lower. Furthermore its character is such that if the elf owl goes far west of the Colorado river it must be by way of the Mojave desert and not by way of the Colorado. As Mr. Frank Stephens is better informed on that subject than I am, I pass the question up to him.

The two elf owl skins I sent to the Academy of Sciences in San Francisco, but the eggs I still have, two beautiful sets of four each. Even the five hawk eggs turned out first class. The family of Mexican screech owls I brought home with me. I kept them for two months and then sent them to Central Park, New York. As they were the first lot of young, of their kind, ever taken in California I offered them to the Park Commissioners, San Francisco, but they declined the proffered gift with thanks. The mother, of course, went with them. They certainly were a beautiful lot if such expression can be used to describe a family of owls.

Yuma, Arizona.

Nevada Notes

BY WILSON C. HANNA

DURING the late spring and early summer months of last year (1903) work on the Central Pacific Reconstruction brought me to that part of Humboldt county, Nevada, lying between Golconda and Battle Mountain. This division of the railroad lies in the valley of the Humboldt River, which here varies in width from a few hundred yards to many miles; while the river itself containing a good volume of water flows slowly through its very winding channel, in some places dividing into several branches. This condition of the river causes many shallow alkaline ponds and a considerable amount of marshy meadow land which in most places is covered with coarse wild grasses.

The valley is bounded by rocky mountains, the height of which varies from several hundred to several thousand feet above the floor of the valley. Upon the highest of these snow lies during most of the year. Their sides are sparsely covered with low chaparral. The soil is more or less alkaline which is probably the cause of the absence of trees, but willow and wild rose bushes thrive along the river banks and in some places form almost impenetrable thickets. The elevation of the railroad through the valley is about 4300 to 4500 feet above sea level.

During May and June I had a chance to see many of the birds of this section, and when possible I spent my time along the river collecting birds and eggs. There are very few birds here compared to the many found in California, and collecting has to be done while you are enduring torments from the mosquitos that breed in great numbers along the banks of the stream.

The following is a list of the birds I observed. I noted several which are not included as they were too far away for certain identification.

Larus californicus. California Gull. Several seen flying through the valley in May.

Sterna forsteri. Forster Tern. Common along the river. Flocks of as high as ten seen flying slowly over the sloughs.

Hydrochelidon n. surinamensis. American Black Tern. One seen near Iron Point June 1. Several others seen later in the month.

Pelecanus erythrorhynchos. American White Pelican. Wing of one found at Iron Point, May 13. None seen in the live state.

Anas boschas. Mallard. Common. Ducklings observed May 28 near Golconda.

Mareca americana. Baldpate. A flock of six or seven seen May 15 near Stone House.

Querquedula cyanoptera. Common Teal. Common.

Dafila acuta. Pintail. Several seen near Stone House in May.

Aythya vallisneria. Canvas-back. Not uncommon.

Botaurus lentiginosus. American Bittern. Several seen in a swamp near Stone House early in May.

Ardea herodias. Great Blue Heron. Often seen along the river especially in the sloughs.

Nycticorax n. nævius. Black-crowned Night Heron. Noted near Golconda.

Fulica americana. American Coot. A few observed in the sloughs near Stone House.

Steganopus tricolor. Wilson Phalarope. A few seen in the marshy meadows June 1.

Recurvirostra americana. Avocet. Common along the banks of alkaline ponds.

Himantopus mexicanus. Black-necked Stilt. Common in June wherever there were alkaline pools.

Gallinago delicata. Wilson Snipe. Observed June 3, near Stone House.

Symphemia s. inornata. Western Willet. Rare.

Actitis macularia. Spotted Sandpiper. Common in suitable localities.

Ægialitis vocifera. Killdeer. Very common along river bottom.

Ægialitis nivosa. Snowy Plover. A few seen along the shores of ponds early in May.

Centrocercus urophasianus. Sage Grouse. A few small flocks observed in the canyons near Golconda at an elevation of about 6000 feet.

Zenaidura macroura. Mourning Dove. Very common.

Cathartes aura. Turkey Vulture. Common.

Buteo b. calurus. Western Red-tail. Not uncommon. Found nesting in thorny bushes from six to fifteen feet from the ground. Both light and dark extremes noted. Several old nests which probably belonged to this species noticed on rocky cliffs.

Buteo swainsoni. Swainson Hawk. Not uncommon.

Falco mexicanus. Prairie Falcon. The only one noted was seen near Golconda, May 28.

Falco s. phalæna. Desert Sparrow Hawk. One observed near Golconda.

Pandion h. carolinensis. Fish Hawk. Two seen on a telegraph pole near Iron Point June 1.

(To be concluded)



MR. E. W. NELSON

Mr. E. W. Nelson, our authority on Mexican birds, may be said to have accomplished the greater part of his ornithological work at the two extremes of the continent—namely, in northern Alaska and in Mexico. Although as early as 1875 he published Notes on Birds observed in Portions of Utah, Nevada, and California, and later several articles on the birds of Illinois, his first extensive paper was the Birds of Bering Sea and the Arctic Ocean, contained in the Cruise of the Corwin (1881), which was followed in 1887 by the Report upon Natural History Collections Made in Alaska. Since then he has published largely on the ornithology of our southwestern frontier and of Mexico. Mr. Nelson was a member of the Death Valley Expedition, and, assisted by Mr. E. A. Goldman, has penetrated every corner of Mexico in the interests of the Biological Survey. The results of these explorations have been the gathering of unparalleled collections, the discovery of many novelties^a, and what is perhaps most important, an accurate knowledge of the physiography and life zones of the vast and remarkable region. Mr. Nelson has also made substantial contributions to the literature of mammalogy^b and Alaskan ethnology.^c

^a Mr. Nelson has described over 150 species and subspecies of birds and mammals, the greater part from Mexico.

^b The Squirrels of Mexico and Central America, 1899, is the most extensive.

^c The Eskimo about Bering Straits, 1899.

FROM FIELD AND STUDY

Notes on the Habits of the Water Ousel (*Cinclus mexicanus*).—My attention was first drawn to these birds by a gentleman who claimed he had seen them eat young salmon. At the first opportunity I began watching to see if I could verify his statement.

The birds are seen at all hours of the day flying near the surface of the water, chasing each other from stone to stone, until they alight on some large boulder where they sit and sing. The song is as clear as a linnet's and considerably louder. The first time I heard one singing was on the 15th of October. The old birds were feeding their young until October 7, and whether this prevented their singing, or whether they do not begin to sing until cold weather, as the people here say, I cannot just now definitely state.

So far as I have been able to observe, their food consists of insect larvæ, water-bugs, and salmon eggs and young fry. In their search for food they alight on the surface of the water and paddle about with their wings, their feet, I believe, being absolutely useless at this time. They can make headway easily against a strong current. In moving over the water they dip their head at intervals beneath the surface, drawing the white, nictitating membrane over the eyeball before each dip. In this way they locate their food before diving. Once the food is seen they dive immediately and bring it up in their bill, swallowing after they reach the surface. They always come to the surface in nearly exactly the same place that they go down, and I have seen them dive repeatedly for salmon eggs, and bring them up, in two feet of swift water. Their stay under water is short, not longer than ten seconds.

The larva of a small black fly that infests the waters here, and attaches itself to every submerged stone or stick, forms a great part of the food of the ousel. He perches himself on a rock in mid-stream, dives above it, allows the current to carry him back past the stone, and tears off the larva as he goes by.

One bird found his way into the hatching house, one day, through the aperture which allows the water to come in from the flume outside. The hole is submerged three inches under water, yet the bird never hesitated when frightened to find the opening and go out.—J. S. BURCHAM, *Liloet, B. C.*

Eggs of Flammulated Screech Owl and Western Evening Grosbeak taken in Estes Park, Colorado.—There was taken in Estes Park, Larimer Co., Colorado, by my 'hired assassin' last June, 1903, two sets of eggs of three each of the flammulated screech owl (*Megascops flammeola*) with two female birds. There was taken also the nest, a set of four and the parents of the western evening grosbeak (*Coccothraustes vespertinus montanus*). The eggs were prepared successfully.—FRED M. DILLE, *Longmont, Colo.*

[Mr. Dille has promised an account of these 'finds,' with photographs, for an early issue.—ED.]

California Vulture in San Mateo Co., California.—One afternoon about the middle of January (1904) Prof. Harold Heath of Stanford University saw a California vulture (*Gymnogyps californianus*) a short distance west of the university, near a place locally known as the 'Basaltic Columns.' What was probably the same individual was again seen a week later by Mr. Ernest Dudley, about a mile from the first station.—WALTER K. FISHER, *Palo Alto, Cal.*

Notes on the Birds of Hoopa Valley, California^a.—Hoopa Valley is a curious little Upper Sonoran 'island' tucked away among the mountains of Humboldt county. It is not more than six miles long by two broad and is a mere widening of the canyon of Trinity River about twelve miles south of the mouth. The valley occupies the center of the Hoopa Indian reservation, and is a secluded spot of great natural beauty. Steep mountains rise on all sides, pierced only on the north and south by the narrow canyon of the Trinity. These mountains are on the borderland between Humid and Arid Transition and they possess a singular charm from the large proportion of deciduous trees which one encounters; black, *garryana*, golden-cup and tan-bark (*densiflora*) oaks, chinquapins (*Castanopsis chrysophylla*), and madrones being mixed with Douglas spruces, incense cedars, and a few yellow and sugar pines.

But it is the valley which claims our attention. Here are groves of digger pine (*Pinus sabini-ana*), and thickets of *Ceanothus cuneatus* and *Arctostaphylos manzanita*, red-bud (*Cercis occidentalis*), Christmas-berry (*Heteromeles arbutifolia*), *Smilax californica*, and wild grape (*Vitis californica*). All will be recognized as characteristic Upper Sonoran species.

The following birds are found about the borders of the valley or in the mountains near. They are the ordinary Transition species occurring in the coast ranges. Starred * species are rare:

^a. The easiest way to reach Hoopa Valley is by wagon road from Blue Lake, near Humboldt Bay. The writer had a drive of two days from this place over the Hoopa mountains, and spent from May 29 to June 7, 1899 either in the valley or in the mountains near.

Oreortyx pictus
Lophortyx californicus (Sonoran also)
Dryobates villosus harrisi *
Colaptes cafer collaris
Selasphorus (alleni?)
Contopus richardsoni *
Cyanocitta stelleri carbonacea

Contopus borealis * (higher mountains only)
 Canadian
Junco hyemalis thurberi
Piranga ludoviciana
Geothlypis tolmiei
Cinclus mexicanus
Merula migratoria propinqua

The following 'non-committal' species, indicative of no zone in particular, occur mostly in the valley:

Cathartes aura
Buteo borealis calurus
Falco sparverius
Corvus americanus

Scolecophagus cyanocephalus
Hirundo erythrogastra
Petrochelidon lunifrons

Finally the species found exclusively in the valley are with few exceptions diagnostic of the Upper Sonoran zone. Such forms are familiar birds throughout this zone in California, and are marked thus *.

Zenaidura macroura. * Common everywhere in the valley. Though this is a wandering bird it breeds most frequently in the Upper Sonoran zone.

Tyrannus verticalis. * A common bird in the open valley.

Aphelocoma californica. * This proved to be an abundant bird, spending much time in young groves of *garryana* oaks. The bird taken was gorged with spiders. Joseph Grinnell has separated the jay of the Willamette Valley, Oregon, under the subspecific name *immanis*, on the strength of its exceptionally long tail and somewhat stouter build. The Hoopa bird is clearly *californica*, as are those from Siskiyou and Lassen counties, which I have examined. On the other hand a specimen from Klamath Falls, Oregon, is precisely intermediate.

Sturnella neglecta. * Common. (Breeds also in Transition.)

Carpodacus mexicanus frontalis. Rare.

Chondestes grammacus strigatus. * Abundant in open.

Spizella socialis arizonæ. Common in digger pine groves and *Ceanothus cuneatus* thickets.

Pipilo maculatus oregonus. Common.

Pipilo crissalis. * Common, and a characteristic bird of the valley.

Zamelodia melanocephala. * Common.

Cyanospiza amœna. * Common, especially in the *Ceanothus cuneatus* thickets.

Vireo gilvus swainsoni. Very common.

Dendroica æstiva. A common bird among the willow thickets and smilax tangles by the river.

Dendroica nigrescens. * Several were observed among the *Ceanothus cuneatus* and digger pine thickets.

Icteria virens longicauda. * A common and characteristic bird; one continually heard but not often seen. I heard one sing at intervals till late at night, though there was no moon.—
 WALTER K. FISHER.

Cactus Wrens.—Since the appearance of Mr. Swarth's paper on "The Status of the Southern Lower California Cactus Wren" I have had an opportunity to examine Mr. Anthony's series of *Helcoedyles*. As these, with the entire collection, are to go east and will be lost to western workers I made a hasty study of them, with Mr. Anthony's permission, as being the last opportunity. I sum up my conclusions as follows.

The distribution of *affinis* is southern Lower California; that of *bryanti* is central and northern Lower California, blending into *coesi* (or *anthonyi*) near the border. In the specimens which I examined more *coesi* were from south of the border than *bryanti* from north of it. A male and a female from San Diego I should assign to *bryanti*.

I feel doubtful of the status of *anthonyi* Mearns, as I have no skins from Texas for comparison, but, like Mr. Swarth, I am inclined to consider it a synonym of *coesi*. The Anthony collection includes half a dozen New Mexican examples. A superficial examination did not show much difference in size or shape of bill or in general proportions. I did not have time to make detailed measurements. The separation of the various subspecies seems to rest on coloration. The color differences are mainly as follows.

Affinis: tail with the intermediate rectrices nearly as well barred with white as the outer ones; abdomen with scarcely any fulvous tinge; entire lower surface, from bill to tail, nearly evenly spotted with black, these spots rounded in form; crown light colored, vandyke brown or mummy brown; ground color of back reddish bistre; white stripes of back distinct, linear.

Bryanti: tail nearly as perfectly barred as in *affinis*; abdomen with a fulvous tinge, intermediate in depth between *affinis* and *coesi*; throat with heavier spots, contrasting with the less

spotted belly; crown sepia; ground color of back bistre; white stripes of back with a tendency to break up into two sagittate or cuneate spots through invasion of the median part of the blackish parallel borders.

Couesi, (or *anthonyi*, if distinct from *couesi*) as found in California: tail with the intermediate rectrices mostly black, the white bars on the inner webs often reduced to one or two white spots; ground color of abdomen and flanks fulvous; chin white; throat heavily spotted with black, sometimes nearly solid black, and strongly contrasting with the scantily spotted belly and flanks, the spots on these parts more or less linear; crown varying from seal brown on the coast (at San Diego) to sepia in the interior; the white stripes on the back in the Californian coast region and in Arizona and New Mexico are broken into spots as in *bryanti*, while in those from the Colorado Desert region they are linear as in *affinis*.—FRANK STEPHENS, *San Diego, Cal.*

Dusky Horned Lark in Lake County.—Mr. A. W. Johnson has recently sent me a specimen of *Otocoris alpestris merrilli* which he took at Red Hill Ranch near Upper Lake, Lake county, California, November 13, 1893. It was one of a large flock of similar birds which remained in the vicinity about three weeks. Mr. Johnson states that this is the only time that he has ever met with any sort of horned lark in Lake county, and doubtless the flock observed were winter visitants from the northeast. I also have a skin of *O. a. merrilli* taken by M. P. Anderson at Yreka, California, March 14, 1902.—J. GRINNELL, *Pasadena, Cal.*

THE EDITOR'S BOOK SHELF

THE BIRDS OF FERGUS COUNTY, MONTANA. By P. M. SILLOWAY. Bulletin No. 1, Fergus County Free High School. 8 vo. 78 pages; numerous halftone plates. Lewistown, Mont. 1903.

The Birds of Fergus County, Montana, is really a handbook of the birds to be found in central Montana. An introductory sketch of the topography of Fergus county, with map, is followed by a Partial Bibliography of Montana Birds. Under each species biographical and distribution notes are recorded, with a paragraph on "Distinguishing Features"—a brief description to aid the general reader in recognizing the bird. An analysis of the list, given at the end, shows that thirty species are permanent residents; 101 species summer residents, 31 species migrants, 13 species winter residents or visitors, and 4 other visitors; total 179 species. Numerous halftones of live birds, nests and eggs, by M. J. Elrod and E. R. Warren, add much to the usefulness of this excellent piece of work.

PAPERS FROM THE HOPKINS-STANFORD GALAPAGOS EXPEDITION, 1898-1899. XVI BIRDS. By ROBERT EVANS SNODGRASS and EDMUND HELLER. From Proc. Wash. Acad. Sci. V, Jan. 28, 1904, pp. 231-372.

In this paper the authors present the ornithological results of their explorations among the Galapagos Archipelago, and 109 species and subspecies are listed, extending through 31 families. Under each species is given pertinent synonymy, range, field observations and often critical notes. Measurements and notes on life colors are also frequently included. Naturally the greatest interest centers about the various species of the three peculiar Galapagos genera, *Geospiza*, *Certhidea* and *Nesomimus*, the accounts of which are particularly full, including description of plumage stages, pterylosis, color of bills, relationship between color of bill and plumage, and maturity, nature of change from one phase of plumage to next—moulting, habits, song, nests and eggs.

In the case of those species which include several races the authors have made an innovation. "A number is given to each species of a genus, and this number is intended to stand, not for the form first named, but for the sum of all the subspecies, where subspecies that compose the species occur, not this number and a letter for each of the other subspecies as in the A. O. U. Check List. Each variety of a species is lettered. Thus: 63, *Geospiza fortis* consists of 63a, *G. fortis fortis*, 63b, *G. fortis fratercula*, etc; not 63, *Geospiza fortis*; 63a *G. fortis fratercula*." In the text the word "series" follows the species heading, thus: 55. THE GEOSPIZA PROSTHEMELAS SERIES. *Cactospiza*, *Camarhynchus* and *Cactornis* are regarded as subgenera of *Geospiza*.

The present paper is a very carefully prepared and valuable contribution to our knowledge of the avifauna of the Galapagos.

A REVISION OF THE AMERICAN GREAT HORNED OWLS. By HARRY C. OBERHOLSER. From Proc. U. S. Nat. Mus. XXVII, 1904, p. 177-192.

Mr. Oberholser has given us a revision of the American forms of the genus *Asio* (which supercedes *Bubo*) and these he considers are referable to one species, the various races being intimately connected by individual or geographical intergrades. On this account the specific designation changes to *magellanicus*, which has precedence over *virginianus*. Sixteen forms are recognized, of which six are new. *Asio magellanicus icelus*, from San Luis Obispo, Cal., ranges over the coast of California north to about 35° north latitude. *A. m. lagophonus*, from Fort Walla Walla, ranges over Washington and northern Oregon (excepting the coast region), and Idaho; north through eastern and central British Columbia to Cook Inlet and the interior of Alaska. *A. m. heterocnemis* hails from Labrador, and *A. m. algistus* from the northwest coast region of Alaska. The other two come from Costa Rica and Mexico. The following are now the recognized Californian forms: *Asio magellanicus pallescens* (Stone), southeastern portion of state; *pacificus* (Cassin), "California, except the southeastern part and the northern and central coast districts; extending northward to Fort Klamath, Oregon, eastward to the San Francisco Mts., Ariz." (Dulzura, San Diego, St. Tejon, Fullerton, San Bernardino, Ft. Crook, Kern Lakes, Red Bluff); *icelus* Oberholser (San Luis Obispo, Redwood City, Nicasio).

Mr. Oberholser has discovered the interesting fact "that there exists in at least several of the American forms, and probably in not a few of the old world species as well, a dichromatism comparable to that of the genus *Olus* [*Megascops*] though perhaps not so impressive, which is manifested in a light and a dark, sometimes also a rufous or ochraceous, phase, independent of sex, age, season, or locality; in extreme conditions entirely distinct, yet completely connected by various intermediates. This dichromatism, or rather, polychromatism, together with better knowledge of actual distribution, serve to explain away the supposed interrupted distribution of one or two West American races."

An Analytical Key to the American Forms of *Asio*, Based on Adult Females, is included in this welcome and valuable paper.

A REVIEW OF THE WRENS OF THE GENUS *TROGLODYTES*. By HARRY C. OBERHOLSER. FROM Proc. U. S. Nat. Mus. XXVII, 1904, 197-210.

The genus as here restricted comprises a group of wrens that is wholly American, 37 species and subspecies being recognized, of which three are new. The West Indian forms commonly attributed to *Thryothorus* are included, and a new genus, *Thryorchilus*, founded on *Troglodytes browni* Bangs is erected. The revision does not affect the status of the forms now recognized in the United States.—WALTER K. FISHER.

NEWS NOTES

Joseph Grinnell and Joseph Mailliard spent the Christmas holidays collecting at Palm Springs. An account of their trip is given on another page.

At the last A. O. U. Congress R. E. Snodgrass was elected Member of the Union.

W. Otto Emerson writes that the first *Selasphorus rufus* passed northward through Haywards, February 16, "like a streak of fire." Ever since then meteors have been at a discount in Haywards.

The Southern Division recently held a successful public meeting at Throop Institute, Pasadena. Over 150 visitors were present and a number of popular papers were read by Dr. Newkirk, Prof. Grinnell, and others.

At the A. O. U. Congress the Union voted to abolish the 'bond clause' from its model bird law.

A. C. McClurg and Company have just issued a popular book on California birds by Mrs. Irene Grosvenor Wheelock. This will be reviewed in our next issue.

Joseph Mailliard recently read a paper entitled, "A Midwinter Trip to the Colorado Desert" before the Section of Ornithology, California Academy of Sciences.

Edmund Heller is collecting in Mexico for the Field Columbian Museum of Chicago.

The Delaware Valley Ornithological Club has recently issued the seventh number of *Cassinia*, for 1903. The leading article, John K. Townsend, with portrait, is contributed by Witmer Stone. Among the other articles we note Water Birds of the Middle Delaware Valley by Henry W. Fowler. The brochure is beautifully printed and is one of which the club may feel justly proud.

The Southern Division of the Cooper Club announces No. 4 of the Pacific Coast Avifauna series for the near future.

THE CONDOR

An Illustrated Magazine of Western
Ornithology

Published Bi-monthly by the Cooper Ornithological Club of California

WALTER K. FISHER, Editor, Palo Alto
JOSEPH GRINNELL, Business Manager and
Associate Editor, Pasadena
R. E. SNODGRASS, Associate Editor

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Minutes of Club Meetings

NORTHERN DIVISION

NOVEMBER.—Held at the Phi Kappa Psi House, Berkeley, Nov. 7, 1903. President Taylor in the chair. Owing to the resignation of Mr. Kaeding the Club was without a secretary. Mr. Thompson was appointed secretary pro tem. There were sixteen members and six visitors present, and after the reading and approving of the minutes of the previous meeting, three new members were elected: T. S. Palmer, Washington, D. C.; F. M. Chapman, New York City; and Geo. L. Kaeding, San Francisco. The resignations of Miss A. F. Keefer and R. Kocher were accepted.

Article II, section I, as amended, was passed and accepted by the Southern Division. The amendment of Article III, section I was rejected.

Two communications were read, one from Mr. Kaeding, one from Mr. Bade. The following new members were proposed: Miss A. M. Brown, Pacific Grove; E. W. Nelson, Washington, D. C.; A. K. Fisher, Washington, D. C.; J. H. Bowles, Tacoma, Wash., by Mr. Fisher; E. Gifford, Alameda, by Mr. Cohen; C. W. Bowles, Tacoma, Wash., and L. A. Fuertes, Ithaca, N. Y., by Mr. Kaeding; Jessie E. Butler, Pasadena, by Mr. Grinnell, and F. E. Newbury, Alameda, by Mr. Taylor.

Upon motion of Mr. Emerson, Mr. Thompson was appointed secretary for the remainder of the year.

After a short intermission, the following were nominated as officers for the ensuing year: President, H. R. Taylor; Senior Vice-president, R. B. Moran; Junior Vice-president, W. Earle Mulliken; Treasurer, J. Grinnell; Secretary, Chas. S. Thompson. After some discussion, it was decided to hold the annual meeting at the residence of H. R. Taylor, Alameda. The following program was presented: "Observations in Illinois during the Summer of 1902," by Miss I. M. Eschenberg; "Clapper Rails," by

Mr. H. H. Bailey; "Nesting of the Pine Siskin," by Mr. H. W. Carriger. Meeting adjourned until January ninth, 1904.

CHAS. S. THOMPSON, Secretary.

JANUARY.—The annual meeting was held at the residence of President H. R. Taylor, Alameda, January 9, 1904. There were eighteen members and eight visitors present, among the latter, Mrs. J. E. Barlow. Nine new members were elected, as follows: E. W. Nelson, Washington, D. C., C. W. Bowles, Tacoma, Wash., Miss J. F. Butler, Pasadena, A. K. Fisher, Washington, D. C., J. H. Bowles, Tacoma, Wash., E. W. Gifford, Alameda, L. A. Fuertes, Ithaca, N. Y., F. E. Newberg, Alameda, and Miss A. M. Brown, Pacific Grove.

Five applications for membership were read: P. B. Peabody, Sundance, Wyo., and J. L. Childs, Floral Park, N. Y., being proposed by Mr. Grinnell, Miss Anna Wiebald, Oakland, by Miss Swett, C. W. Luce, Haywards, by Mr. Emerson, and Vernon Bailey, Washington, D. C., by Mr. Fisher.

The following officers were elected to serve during 1904. President, H. R. Taylor; Senior Vice-president, R. B. Moran; Junior Vice-president, E. Mulliken; Treasurer, Jos. Grinnell; Secretary, Chas. S. Thompson. Walter K. Fisher was appointed editor-in-chief of THE CONDOR, with J. Grinnell and R. E. Snodgrass as associates.

Mr. Emerson, in a few well-chosen words, congratulated Mr. Taylor on his reelection, voicing the sentiments of the Club. Mr. Taylor replied, and outlined his policy for the coming year. The following program was presented. Mr. Anderson read an interesting paper entitled "A Bird Island in Cook Inlet, Alaska," and Mr. Emerson entertained the assembly by a lecture on "Adaptations in the Bills and Feet of Birds." Mr. Emerson's lecture was illustrated by a fine display of bird skins.

After the program a vote of thanks was tendered the editors and manager of THE CONDOR for the able manner in which the paper had been conducted during 1903. The meeting adjourned, to meet in Oakland, March 5, 1904. All present then did ample justice to the bounteous spread which had been provided by the host, Mr. Taylor.

CHAS. S. THOMPSON, Secretary.

In Re Taylor's Catalogue

Through a misunderstanding I allowed my name to be used prematurely in connection with a proposed revision of Taylor's Catalogue, as per notice in January 1904 CONDOR. I now state that I am not connected with Taylor's Catalogue in any manner.—D. A. COHEN.

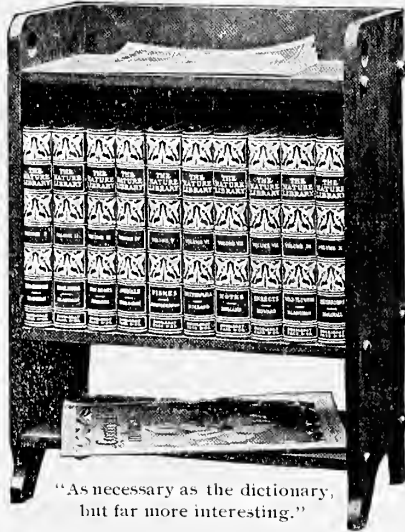
Mrs. Mabel Osgood Wright, in January *Bird Lore*, has a little sermon, with the suggestive text "Keep on Pedaling!" This is a good motto for any club, the Cooper Club among others. The application is not far to seek. There is a decided tendency, in any organization, to attempt the difficult feat of coasting up hill.

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W. OTTO EMERSON.
Haywards, Cal.

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COOPER ORNITHOLOGICAL CLUB

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COURTING ANTICS OF MAN-O'-WAR BIRDS

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume VI

May-June, 1904

Number 3

The Home Life of a Buccaneer

BY WALTER K. FISHER

ILLUSTRATED WITH A DRAWING AND A PHOTOGRAPH BY THE AUTHOR

ON account of his thievish disposition and general lack of regard for the property of others, the man-o'-war bird (*Fregata aquila*) is looked upon as something of a scapegrace. But however unsavory his reputation may be or unconventional his ethics, he partially compensates by peculiar habits and bizarre appearance, which render him one of the most entertaining of all sea-fowl.

During a visit to Laysan, a small but remarkable island situated eight hundred miles northwest-by-west from Honolulu, the writer had an excellent opportunity to learn something of the home life of these birds. Laysan is a mere sandy atoll, slightly elevated, enclosing in its central dish-like hollow a placid lagoon, not connected with the sea. The white coral sand slopes up from a grassy, weed-strewn plain surrounding the central body of water, to a rim near the sea beach, and the highest point is scarcely thirty feet above the surf. Bushes of various kinds, *Chenopodium*, *Santalum*, *Scaevola*, and coarse tussocky grass cover most of the island, while handsome morning-glories, succulent purslane, and several other pink, yellow, and white flowers add a bit of color to the treeless, monotonous, stretches.

Laysan is a veritable bird paradise. Thousands of albatrosses rear their young here each year, free from fear of injury. Sooty, gray-back, and white terns, noies, noddies, blue-faced and red-footed boobies, tropic birds, several kinds of shearwaters, petrels, and man-o'-war birds are in legions, not to omit five indigenous 'land birds', including a rail and a duck. During the year numerous migrants, chiefly limicoline species, among which the bristle-thighed curlew and Pacific golden plover are prominent, visit these remote shores. How they find the islet is

a mystery, for it is only three miles long by one and a half broad, and is so low as to be perceptible only a few miles at sea.

We found the man-o'-war birds living in little communities of half a dozen pairs or more, and they had built their nests of sticks and morning-glory vines, placing the rude structure on the top of low bushes. Here either the male or female was always to be found, holding down the claim as it were. Sticks are difficult to obtain because the birds must break them from the bushes, and this means work. No professional robber loves work, as such. Consequently if both birds left the home, even for a short time, certain roving neighbors would consider it their duty to appropriate any suitable material for the enlargement of their own houses. And then, when the real owners returned they would look in vain for the nest, which melted away as if by magic.

These birds are amusing creatures in more ways than one. They habitually sit on the nest with their heads tucked down between the wings. Consequently they always appear as if chilly, with their shoulders hunched up and their 'hands' deep in their pockets. Yet one finds it far from cold in the glare of tropical sunshine.

But the greatest 'circus' of all, if I may be allowed the term, is the male bird. Just under his chin he has a little pouch of bare skin, like a wattle, which is technically known as a gular sac. During the courting season, this pouch is inflated to a large size, and becomes a most brilliant red. In fact the adornment resembles a toy balloon, such as small children delight to dangle on a string. The color is astonishingly bright, being a crimson, which varies in its intensity from time to time, for the sac often catches on its surface the sheen of the sky, or becoming somewhat collapsed, turns translucent orange about the sides.

As we wandered over the inner slopes of the island we could see these grotesque creatures on all sides, sprinkled among brooding birds with shriveled sacs, and white-breasted females. It would be difficult to convey any idea of the droll expressions which the 'puffed up' males habitually assume. The photograph hardly does justice to the subject. If the sac is fully inflated it obscures the whole breast, so that when viewed from the front the bird appears to be peeping over itself. Only the crown of the head, the beak, and two very bright eyes can be seen. At a distance one is strongly reminded of great red fruits resting in their foliage of soft green.

Fregata will often sit for a long time as shown in the photograph, scarcely altering his position. But if his spouse appears somewhere overhead, sailing to and fro, he is all animation at once. As she swoops down he suddenly stands up in the nest, throws back his head, spreads his great wings, and protruding the brilliant pouch, shakes his head from side to side, with a hoarse cackle. Occasionally she deigns to alight near him. Then he takes even greater pains to make his charms conspicuous, for, trembling with excitement and waving his pouch, he fluffs up the long, greenish, iridescent feathers on his back. In this posture he attempts to strut, but cannot; so instead he cackles and chuckles in an outlandish manner, calculated to captivate his mate. But at this moment she usually flies away, leaving him to relapse into his former stolidity.

After the single white egg is laid all this ceases. The sac is no longer inflated, and resumes its usual insignificant size. Both birds settle down to the serious duty of brooding the egg, and guarding the nest from marauding neighbors. Their eternal vigilance is even more necessary when the naked chick is hatched, for if there is one piece of devilry in which the frigate bird indulges, it is

kidnapping tender nestlings. There are always a number of birds flying back and forth over the villages, as if on the lookout for prey. Ordinarily they could not make even a fair living in this manner, for all species know enough to cover the chick closely. Mr. J. O. Snyder frightened a female off her nest one day to observe the little one, but even while he was watching there was a rush of wings, and a bolt out of the sky caught up the defenseless creature, and was off in a flash.

Man-o'-war birds never alight on the water, and on land only when necessary. Their great powers of flight have been gained at the expense of their legs, which are the merest travesties. Walking is a feat which they are unable to accomplish, and if obliged to attempt it they sprawl over the nest, or ground, in a most awkward manner. When alarmed they consequently have difficulty in arising, espe-



MALE MAN-O'-WAR BIRD ON NEST

cially the males with swollen throats. But once a wing they are perfectly at home, and sail off with consummate ease and grace, the crimson 'balloon' of the male swaying from side to side. Their appearance as they soar aloft with this impedimentum can be more readily imagined than described.

I believe nature has devised a no more perfect flying machine than one of these birds. There is a temptation with every one who has observed their splendid powers of flight to become enthusiastic. But in the art of soaring *Fregata* is deserving of any deed of praise we may bestow, for in swiftness, skill, and endurance it is without a rival. The albatross is a wonderful creature at sailing, though a fresh breeze is a necessity for its best efforts. On comparatively calm days the man-o'-war birds are able to rest on motionless wings, or slowly to describe circles

high in air, where of course some breeze is stirring. They frequently rise so high that one can scarcely detect them against the shimmering blue of the tropical sky. Suddenly one of these lofty birds takes a notion to descend, and promptly does so, by a series of long leaps, or swoops, that make one fairly dizzy.

The presence of a ship excites the curiosity of younger birds, and it is a pleasant sight when a whole flock hovers around the mastheads. Here they move leisurely back and forth, but give most of their attention to the lazily fluttering pennant, which they attempt to swallow. Hardly once in an hour do these birds flap their wings, but only spread and close their deeply forked tails, which evidently aid them in balancing. They are complete masters of their element.

Frigate birds glean a portion of their livelihood from the host of creatures which live at the surface of the ocean: flying-fishes, ctenophores, jelly-fishes, vellela, janthina, and in fact anything that may attract their fancy. I even observed one bird aimlessly carrying a splinter of wood, uncertain of its utility, yet unwilling to release it. As they never alight on the water, they seize such bits of food by swooping down in a broad curve. They are able to measure distance so accurately that no disturbance is created when the object is grasped.

On Laysan this good judgment was utilized when the birds drank from a small pond. They flew back and forth about twenty feet above the surface, then suddenly darted downward in a long curve, and just at the right instant, like a flash, bent the head down, dropped the lower mandible, and scooped up a little water. So swift was the performance that I was always a moment too late, when photographing it. The males with inflated pouches cut a most ridiculous figure, for the sac would plow a little wake, and also tend to overbalance the birds, but I saw no accidents.

We were somewhat surprised and disappointed that we were not a witness to those acts of highway robbery for which the man-o'-war bird may be said to be justly famous. Whether they occurred during our stay of a week (May 17-23, 1902) I am unable to say, but if so, must have been rather rare, because either Mr. Snyder or myself were usually in the field at all times of day. The explanation probably is that the warfare starts when the young frigates hatch or begin to require considerable food. As noted above not all the birds had yet deposited eggs, while the young were exceedingly few in number.

The best account by far that I have ever seen of this high-handed proceeding is given by Mr. William Alanson Bryan, in his monograph of Marcus Island,^a and in concluding I can do no better than quote his words (l. c. p. 114).

"I have before referred to the large colonies of common brown boobies about the north point of the island. It was in the vicinity of this colony that the man-o'-war birds were most abundant. Here they would lie in ambush for the old boobies and tropic birds as they returned from the sea heavily laden with fresh food for their young. Sitting quietly on the tree tops, or more often wheeling high overhead industriously patrolling the island, out where the surf broke on the reef, these birds would keep a sharp lookout to sea for a sight of the returning fishing fleet of boobies. Sighting one (sometimes consisting of one, sometimes of several individuals) as many as half a dozen hawks would make for them under full sail, and without a moment's warning would engage a helpless bird in battle. Swooping down upon it from every side, buffeting it with their wings, snapping at

^a A Monograph of Marcus Island, by William Alanson Bryan, in: Occasional Papers of the Bernice Pauahi Bishop Museum, II, No. 1 Director's Report for 1902. Honolulu 1903.

it with their long hooked bills, flying now above, now before, now below it, the hawks would so confuse their victims that eventually, feeling that the only safety for its life lay in letting go part of its store of supplies as a sop for its assailants to quarrel over, the booby would on a sudden drop one of its fish, whereat a hawk would swoop down, more rapidly than the eye could follow, and catch the food before it had touched the wave, then taking it securely in its bill would fly majestically off to feed its own ever expectant offspring. The unfortunate booby meanwhile was farther pursued by the less fortunate hawks until, reft of all her quarry, she was allowed to return to her young.

"On the fringing reef hereabout were exposed a number of large blocks of coral stone that served an interesting purpose in these sea battles. If a booby succeeded in warding off or evading her pursuers from the first attack she would set a course direct for one of these rocks, the hawks usually increasing in numbers at every moment in hot pursuit. Perhaps another fish would be dropped on the way, but if at last the bird was able to make this place of safety its pursuers would mount high in air, or, to use a sea term, lay off and on, sailing back and forth always keeping the sharpest watch on the brown object sitting quietly on the rock. After a short rest, and choosing a favorable opportunity when its pursuers were at some distance, the booby would make a final dash for the shore. The nearer it got to the beach the more furious grew the conflict; for in addition to the hawks both the noddy and white terns would take a hand in the robbery. It often occurred that a bird that had let go its catch one by one as it came in would here, within fifty yards of its nest, disgorge its last fish, which would be eagerly caught up by any one of its pursuers that was able to secure it. Panting and excited the old boobies would drop down on arriving at the colony in an exhausted condition.

"The frigate birds showed much discrimination, selecting at once the boobies that were most heavily laden and consequently more liable to pay generous toll when brought in contact with this high-handed system of exacting customs duties. Though tropic birds were attacked they were more rapid flyers and more expert in evading pursuit. As in the story of the two dogs that quarreled over a bone, it was not uncommon in the performances I have described to see the tiny white tern reap the most substantial benefit from one of these encounters. Battles similar to those mentioned were to be seen during the entire day, but towards nightfall they were more numerous as well as more severe."

Stanford University, Cal.

The Farallone Islands Revisited, 1887-1903

BY W. OTTO EMERSON

ILLUSTRATED WITH PHOTOGRAPHS BY THE AUTHOR

FROM the old Spanish Chronicles we learn of the discovery of the Farallone Islands in 1543 by Ferrelo. It was Sir Francis Drake, however, who gave us the first particular description of the "Island of St. James," as they were then known (1579). Drake, it seems, landed to replenish his larder with seal meat. Doubtless he laid in a stock of eggs, for a man is never too old a boy to collect eggs where they may be had for the taking. In 1775 Bodega and Maurelle,

on their way up the northwest coast named the islands "Los Farallones de los Frayles" in honor of the monks who had discovered San Francisco Bay in 1769, the same year that the Franciscans founded their first mission in Alta California, at San Diego. The first settlers on the islands, we know, were Russians from the north who came with Aleuts to fish and seal hunt. There remain today, on the southeastern part of the island, the well-preserved stone walls of their low huts, but the date of their occupancy is unknown.

The islands are formed of crystalline granite, a ridge rising many hundred feet above the ocean floor. Sugar Loaf Rock in Fisherman's Bay is an exception being a conglomerate of coarse gravel standing isolated 185 feet above sea-level. South Farallone Island is the largest of the group. At water line the rocks are of a blackish brown where the surf beats, and then above high water mark change to a yellow or light grayish tone over all the island, where not occupied by the roosting or nesting areas of the sea-fowl, or changed by the presence of introduced plants. The granite readily yields to a pick, and offers a firm footing, but is rather hard on shoe-leather. Shore lines are all cut up into great channel-like troughs,



WEST END ACROSS BREAKER BAY

with arched grottos running far into the rock and filled with gorgeously tinted marine life. There are natural bridges, pot holes, and shelving ledges of all descriptions.

I will go into a general description of the island life only so far as it may tend to show the changes which have occurred in the colony life of the feathered occupants as noted in my former visits to the island in 1885-87, and in 1903. Naturally many changes would occur when so many thousands of sea-fowl have been more or less disturbed during the nesting season for the past fifty years. In 1850 the Farallone Egg Company was organized to collect and ship the eggs of the California murre (*Uria t. californica*) for the San Francisco market, and by 1856 it was estimated that three or four millions of eggs had been shipped.^a Twenty-five thousand dozen a year were then said to have been taken up to 1873.^b This figure then decreased to about 15,000 dozen, which was not far from the amount

^a Hutching's Magazine, Aug. 1856, p. 53.

^b Harper's Monthly, April, 1874, p. 623.



shipped in 1892.^a This amount was increased to 25,000 dozen in 1887, I was informed by the head keeper, which was the largest picking for several years past. In 1896 Mr. Leverett M. Loomis visited the island, and the egg picking had fallen to 7645 dozen.^b From this it is apparent a great decrease in the laying of the murre had taken place on South Farallone, and I was prepared to note a corresponding change in the abundance of murre, as well as a decrease in gulls and cormorants.

June 2, 1903, at 2:30 p. m. found me on the wet deck of the staunch little tug "Voltaire," which rolled like a tub as we lay in Fisherman's Bay, facing the old familiar points, but not the endless multitude of sea-fowl I had seen in 1887 swarming from the great colonies on Sugar Loaf, Arch Rock, and other places. A walk among the many breeding spots of the southern portions of the island showed an entire absence of birds, and a tramp over to West End on the following day showed similar conditions in many places. Of one rookery, in particular, of Brandt cormorants (*P. penicillatus*) where I often spent hours among the nests, nothing remained. This cormorant community was the largest single colony on the island, and the least disturbed of any, being on Indian Head, on a high flat

^a Overland Monthly, Sept. 1892, p. 241.

^b California Water Birds, III, p. 357.



GREAT ARCH, WEST END

bluff facing the ocean and away from the main rookeries of murres. From the appearance of the nests they had been used for many years.

On the accompanying map the rookeries as noted in 1887 are designated by numbers, while those of 1903 are indicated by letters.

(1) Murre Bridge or Great Arch Rock was formerly occupied along the whole ridge. Colony has decreased somewhat.

(2) A small colony of Farallone cormorants (*Phalacrocorax dilophus albociliatus*) has disappeared.

(3) This great murre rookery on the divide of West End was one of the largest on that section of the island. By standing in a gap or slit of the ridge one could look down upon hundreds of cackling, bobbing, murres going to and coming from the sea, after feeding hours. They seem to have regular times of the day, when incubating, to relieve each other. This rookery is much reduced, and the birds are very wary. All the island birds have grown more wild, probably

because a dog, which did not used to be kept, now accompanies the men and children wherever they go, and causes the birds to be continually moving on and off their nests. This is particularly the case about the southern part of the flats and rocks below the keepers' dwellings. Where one could go out ten yards beyond the house among the rocks and study the birds contentedly brooding their eggs, now none are seen, unless it be petrels and auklets among the stone-walled trails, or in burrows.



LOOKING OVER FISHERMAN'S BAY TO SUGAR LOAF ISLAND



LIGHT TOWER HILL AND BREAKER BAY FROM JORDAN

(4 and 5) Brandt cormorant. Of these large colonies nothing is left.

(6) Tufted puffin (*Lunda cirrhata*). This was the largest single nesting site of puffins on the island, in 1887, and still is. As the puffin is a burrowing species it is more protected during the nesting season.

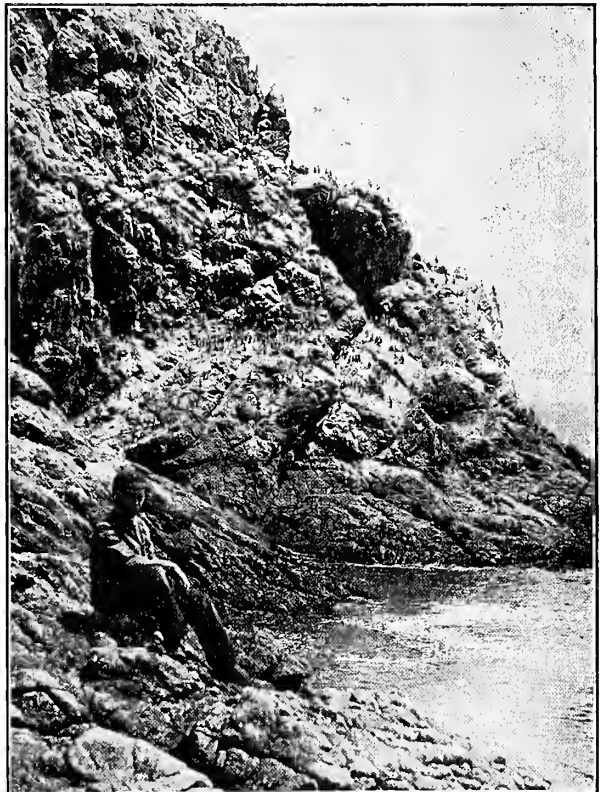
(7) Baird cormorant (*Phalacrocorax pelagicus res-*

plendens). This species does not congregate in large colonies in any place. This community which comprised only eight or ten nests on the face of Main-top, east side, has disappeared.

(8) Western gull (*Larus occidentalis*). A colony of gulls along a slight ridge of approach to the bridge over Jordan have left. Many of the smaller colonies of gulls that were to be found at the south end of the island in 1887 have disappeared. The gulls are now congregated at the west end.

(9) Cassin auklet (*Ptychoramphus aleuticus*) holds its own along the stone walls of the tramway, and is increasing in numbers, if anything.

(10) Western gulls had here a small scattered colony over the low flat rocks facing Fisherman's Bay. I found only two nests in this locality in 1903. It was here I learned something of the pup sealion's love for fresh eggs. Early one morning I met a pup with its mouth bedaubed with egg, making its way among the gull nests. Two more



GREAT MURRE CAVE, EAST END

surprised individuals never met on the collecting field. The big brown watery eyes looked up as much as to say, "You've caught me in the act; what are you going to do about it?" When I attempted to pat its head, it uttered a low 'eggy' yelp, and ambled off to the water's edge.

(11) The murres had a large rookery on the ridge that runs out from Tower Hill, facing the old stone house (built in 1855) of the first light keeper on the island. This colony has all but disappeared.

(12) This location contained the largest Farallone cormorant rookery of the island (just below the light-tower doorway and facing to north of Shubrick Pt.). The birds have all left this portion of the island. The accompanying halftone, from a photograph taken in 1887 shows this rookery as it then appeared. This picture was the first ever taken of these cormorants.

(13) In a sort of swale just above North Landing the Western gulls had a



ROOKERY OF FARALLONE CORMORANTS IN 1887

small colony consisting of twenty or thirty nests. These have all disappeared.

(14) Pigeon guillemot (*Cepphus columba*). This was and still is the most abundant colony of these birds on the island. The locality affords plenty of piled-up loose rocks, where the sea pigeons (as they are called) can lay the two bluish-gray eggs in a natural hollow.

(15 and 16) Great Murre Cave and Shubrick Point still possess the abundance of birds which characterized them in 1887. The view here shown of Great Murre Cave can give but a slight impression of this great cavern of sea-fowl life.

(17) A colony of western gulls and Farallone cormorants was located on a spur or slight ridge jutting out from a bend of the trail near summit of the Light Tower. This ridge is now bare of any life. The gulls have also disappeared from flat near east landing (18).

(19) Pigeon guillemot rookeries at East End and along the south shore are all of the past. On Seal Rock can still be seen a large rookery of murres and a few cormorants, as well as the only remaining colony of sea-lions. A much larger number of these sea brutes were located on Sea Lion Islet in 1887. There was also a colony of cormorants at the top as shown by the accompanying illustration, from a photograph taken at the time. Another colony of sea-lions was living on the flat and rocks at West End, where Murre Rocks lie.

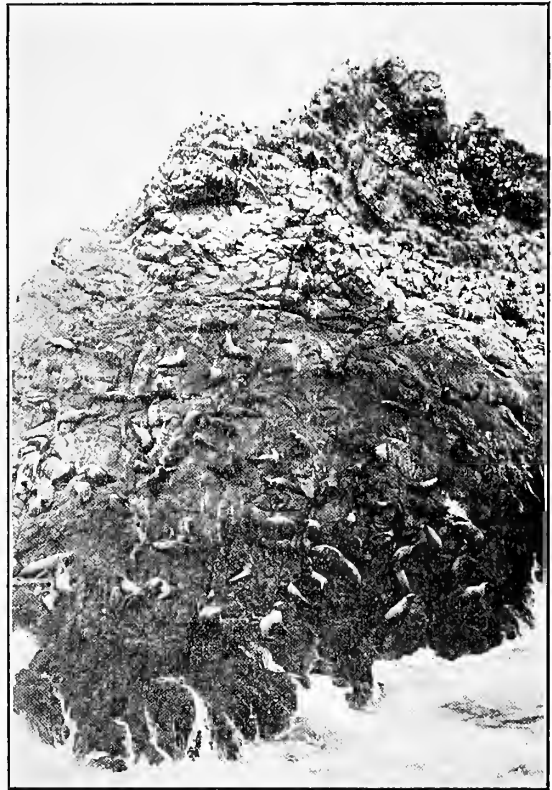
The rookeries as they occurred in 1903 are as follows: (A) Western gull near where formally were Brandt cormorants. (B) A large colony of several hundred Brandt cormorants are located on a slope facing Murre Rocks. This is at present the largest colony of this species. (C) Baird cormorants, a few nests along the shelving face of the divide between Main Top and West End. (D) Western gulls. A scattered colony have their homes here among the tumbled-down rocks. The sea parrots or puffins live here on social terms with the gulls. (E) A colony of puffins is still located along this ridge where they were seen abundantly in 1887. (F) Pigeon guillemots are seen at this old nesting site and have increased in numbers.

Where formerly the Farallone cormorant was the most abundant of the shags, there is now left only a colony of about seventy, at West End, mentioned by Mr. Kaeding as having young, in his article in *THE CONDOR*, September, 1903.

It would be natural to expect, that after nearly half a century of raiding of the murres for their eggs, the rookeries would show some decrease in size; and also that the collecting of their eggs for two or more months would effect the fertility and size of those deposited, at a time when there should naturally be young.

I was able to collect a considerable series of the small eggs from the thousand brought in from the rookeries during my stay of six weeks on the island. All were taken during July 1887, and I append a table of their measurements, along with the dimensions of the same number of typical eggs. The engraving will show their relative sizes when viewed side by side.

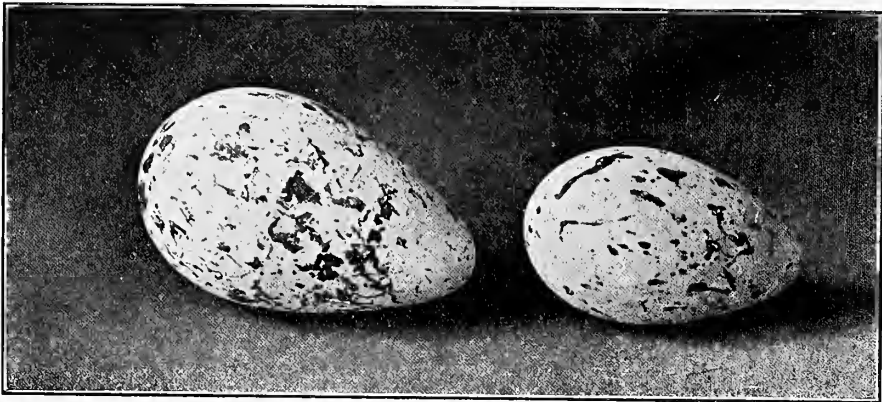
That the National Government has been wise in protecting this island bird life no one will deny who has once observed its wonders.



SEA LION ISLET IN 1887
(The cormorant rookery has disappeared)

TABLE OF MEASUREMENTS IN MILLIMETERS OF NORMAL AND SMALL-SIZED EGGS OF THE CALIFORNIA MURRE.

TYPICAL EGGS		SMALL EGGS		TYPICAL EGGS		SMALL EGGS	
1	50 x 81	43 x 69	6	52 x 86	42 x 79		
2	51 " 84	43 " 69	7	52 " 86	41 " 71		
3	51 " 82	43 " 67	8	53 " 83	45 " 69		
4	52 " 81	43 " 70	9	52 " 86	39 " 60		
5	52 " 90	43 " 65	10	52 " 86	37 " 63		



EGGS OF CALIFORNIA MURRE

Twelve Rock Wren Nests in New Mexico

BY FLORENCE MERRIAM BAILEY

ILLUSTRATED WITH PHOTOGRAPHS FROM THE BIOLOGICAL SURVEY COLLECTION

ROCK wrens abound among the eroded sandstone cliffs and gulches of the plains region of New Mexico, and while we were working in the country last summer we found twelve of their nests and innumerable families of young birds.

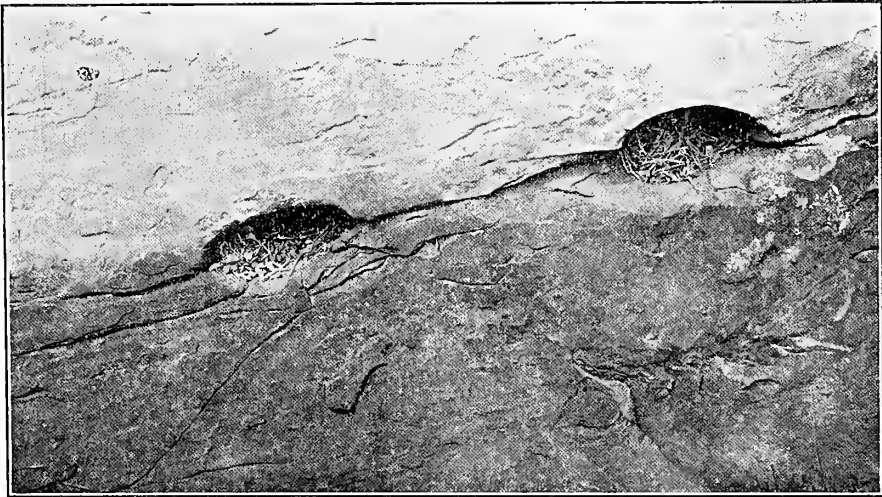
Our twelve nests were distributed over a period of three months with margins on either side, the first of those containing young being found on May 23, and the last on August 25. Of the four nests of young that we discovered, three were found between May 23 and June 1. A nest containing six eggs on June 27 was our only record of eggs.

As the wrens themselves identified eight of our twelve nests—the one containing eggs, the four with nestlings, and also three of the unoccupied nests, the old birds being in evidence about them—we became sufficiently familiar with the Salpinctian style of architecture to leave no doubt as to the identity of the remaining four.

While the nests varied in bulk and the relative proportion of sticks, weeds, and grass stems used, and one builder so far departed from the general custom as to line with hair and feathers, one peculiarity characterized all twelve of the

nests—they were made largely of small stones! Where the nests were in cracks or holes in the faces of boulders, the stones were usually merely mixed with the sticks and weeds of the nest itself, but in one case where the nest was in a crack of a slanting boulder over which four-footed egg hunters might make their way, the stones were piled up in front along the edge of the crack leaving little room for any but the owner to enter. This was also the case with a nest placed in the crack of a cut bank.

The most curious feature about the use of the stones was that where the site admitted, there was generally a mass of stones leading away from the nest—like a gravel walk from a door. One of the two ground nests that we found—built so far back under a rock that the young could be seen only when they raised their heads for food—had a striking pavement. On counting the stones of walk and entrance, I was surprised to find that there were fifty, and there were doubtless many more mixed in with the materials of the nest. The stones, like most used by the wrens were bits of sandstone, varying from half an inch to an inch and a half



ROCK WREN NESTS IN FACE OF BOULDER

in length. Those in figure 2 are quite characteristic, although they are not so flat as many that are used. One nest in a hole in a rock about three feet from the ground, had a wide entrance paved with them very much like that of figure 2. Eighty-three stones were counted here, and there were many more mixed in with the mass of the nest. The largest number that I counted belonged to the nest shown in figure 2. It had *two hundred and sixty stones*, none of them less than half an inch in length! In addition to the stones and the soft grassy nest lining there was a quart can full of coarse sticks, many of them four or five inches long and as large around as a lead pencil. This nest is now on record in the National Museum.

Two possibilities suggest themselves in explanation of this astonishing work of the wrens. In a general way it is in line with the wrenish habit of making bulky nests—a matter of protection perhaps, like the great accumulations of the wood rats. In special cases where the entrance to the nest is partially closed by the stones, the purpose can be easily understood. Protective reasons do not apply, however, to the masses of stones leading away from the nest, sometimes as far as

eight or ten inches. Some of these might easily have been dropped by the birds in bringing them to the nest, for many of them are heavy loads for such slender bills at best, but it is of course impossible to imagine that such accumulations of stones could be the result of accident.

In rock walls filled with cracks and openings that, to the superficial glance look just alike for miles, might it not perhaps be a help to have a stone walk before the one crack you lived in? The question leads back to the more far reaching one—how do birds locate their nests and young? Is 'intuition', a 'sense for locality' helped out by observation of details such as might be noted by men? The subject offers an interesting field for observation. It would be interesting, also, to find out whether Salpinctes uses stones in its nests in other formations than sandstone, where small light stones are not so readily found for the looking. In other words, how general is the Salpinctian use of stones, and what proportion of nests have the walks leading away from them?

Washington, D. C.



ROCK WREN NEST IN CLIFF

Some Winter Birds of the High Sierras

BY WILLIAM W. PRICE

ILLUSTRATED WITH PHOTOGRAPHS BY THE AUTHOR

BY December or January winter has closed down over the High Sierra and it does not lift until June. The snow falls day after day, not in light playful flurries, but in great heavy flakes out of a leaden sky, so thick you cannot see a hundred yards. This snow piles up deep on rock and tree, two or three feet in a night, an even blanket over all the landscape. Or the snow may come with

gales of wind, a veritable blizzard, the light powdery crystals driving into every crack and cranny, piling behind obstructions in liuge drifts, ten, twenty, fifty feet deep. By April the heavy storms have passed; the snow rapidly settles so that one may walk upon the crust, and from now on the snow melts quickly. The weather during the winter is not bitterly cold, the temperature rarely drops to zero and then only on clear nights; but as a rule there is frost every night.

The traveler through these vast wastes of snow is impressed with the utter silence and solitude. All the familiar scenes of summer are gone. The roads and the trails are blotted out; the houses are eave-deep or entirely covered; the alpine lake is a flat white plain; the waterfalls are mute, mere trickling dribblets over ice-sheeted precipices, and all the varied and abundant animal life of summer has disappeared. No marmot or lagomys ealls shrilly from the rock piles, no chipmunk chatters as you pass; there is no whistle of the quail, no song of warbler or thrush. One may hear the rattle of a woodpecker, the cry of a blue-fronted jay, or the lisp-ing notes of a mountain chickadee, but even these are uncommon.

During the past four or five years I have made several short winter excursions



LAKE OF THE WOODS AND PYRAMID PEAK

into the high mountains both at Summit Station and at Glen Alpine, at elevations from six to ten thousand feet. Traveling here is done entirely on the Norwegian skee for the snow averages from ten to twenty feet deep on the level.

These skees are thin strips of wood three or four inches wide and from six to ten feet long with an upeurve at the front end. They are used exclusively by the dwellers along the railroad and at the scattered resorts, in preference to the racket-shaped Canadian snow-shoe. Without these one would often sink waist deep in the soft, powdery snow.

The usual way of reaching the Glen Alpine region is by railroad to Truckee, thence on skees sixteen miles to Lake Tahoe where a little mail steamer twice a week makes the circuit of the lake. Leaving the boat at Tallae at the south end of the lake we use the skees once more to make the seven miles to Glen Alpine where food and shelter may be had from the watchman at the resort. From here it is four miles to Mt. Tallac and six miles to Pyramid Peak, each mountain being about ten thousand feet altitude.

A complete list of the birds is not attempted; only those species which appear

residents during the dead of winter are enumerated. By the middle of May the snow has mostly gone below 6500 feet. Summer residents are arriving in great numbers and some have begun nest-building. Above 8000 feet, it is often July before the ground is bare of snow.

DUSKY GROUSE (*Dendragapus o. fuliginosus*). I have found this bird each winter to at least 9500 feet. It prefers groves of the mountain pine and red fir, selecting trees of the thickest foliage on the northeast hill slopes. The prevailing winds are from the southwest. One may often approach a tree where a dozen or more are roosting. Without warning one will leave with great rush of wings, dropping like a cannon ball to some lower level, to be followed, one at a time, by the entire flock.

HAIRY WOODPECKER (*Dryobates v. hyloscopus*). Found throughout the woods but especially in the tamarack pines along the water courses. Its food supply, the larvæ of beetles and ants, does not seem to be affected by the cold and deep snows. Two or three may be seen in a day's trip, which illustrates its rarity.

WILLIAMSON SAPSUCKER (*Sphyrapicus thyroideus*). Rather more common



SKEEING NEAR GLEN ALPINE, LAKE TAHOE

than the preceding woodpecker, but also preferring the groves of tamarack. The resonant roll call of this bird, so striking a sound in the summer, is also heard in the winter, but doubly impressive in the silence of the white wilderness. One blustering day I was resting under the lee of a pine on Mt. Tallac, when one of these birds, a male with rich glossy plumage, alighted within a few feet of me. So long as I was perfectly quiet it searched about in the crevices of the bark entirely without fear; upon a slight movement on my part it hopped away to a safe distance where it remained eyeing me inquisitively. When I finally took my way along the mountain side the bird was still in the tree.

BLUE-FRONTED JAY (*Cyanocitta s. frontalis*). This bird seems equally omnipresent winter and summer, equally noisy and inquisitive. These are seen singly, or in companies of three or four, flying from tree to tree, continually squawking. They are sometimes seen along the open watercourses where they appear to find food. A few were in regular attendance at Glen Alpine quarreling for the table scraps. I have frequently seen them in the smoke and gloom of the snowsheds of

the railway, feeding on the waste dumped from the dining cars. On my approach they would fly out through the cracks in the shed, perch on nearby trees until the coast was clear, and then return to their feast.

CLARKE NUTCRACKER (*Nucifraga columbiana*). I have seen this bird on Mt. Tallac where it appeared to be feeding on the cones of the timberline pine.

BENDIRE CROSSBILL (*Loxia c. bendirei*). This is one of the most interesting of the winter birds, but probably of rather irregular occurrence as I have seen only a few flocks. Each time they were feeding industriously on the cones of the tamarack pine, in a few minutes fairly darkening the snow beneath with scales and refuse. At Summit in February, 1901, I observed a large flock of these birds each day during my stay of a week. The flock, perhaps containing twenty individuals, adults and those in immature plumage, was not wary, but often allowed me to approach the tree and watch them deftly pry open the cones with their sharp mandibles. When alarmed, the whole flock would leave the tree with a rush, circle a few times and alight in a tree in the neighborhood, beginning to feed at once.

AMERICAN DIPPER, (*Cinclus mexicanus*). The dipper is found along all the open streams. I have heard its beautiful wild song at all times, strangely sweet



HEATHER LAKE AND PYRAMID PEAK RANGE

and almost out of place in the solitude of winter. One evening along the Truckee River in the midst of a fierce snowstorm I heard its song. I could not locate the bird at first, but after a time I found it perched on a rock in the shallow water and overhung by a huge snowbank. For a time I watched it pouring out song after song, and when I passed on I could still hear the sweet notes until distance and the rush of the storm silenced it.

CANYON WREN (*Catherpes m. punctulatus*). I found a dead bird of this species in the snow at the Glen Alpine resort in March, 1903. The watchman there told me that there had been a pair about the buildings the entire winter but they had disappeared during the recent hard storm. This present February I heard the song of this bird in the snow-sheds at Summit Station and while I did not see the specimen its song was unmistakable. It probably had its retreat in the round house or other railroad buildings. The sheds themselves are so filled with smoke and gas from the passing locomotives that residence there would be intolerable.

MOUNTAIN CHICKADEE (*Parus gambeli*). This is by far the most common of all the winter birds. They are found everywhere and often in scattering flocks of

twenty or more individuals. They are the house pets of all the inhabitants. They eat crumbs from the kitchen steps, alight on the window frames, and will even enter the houses if a window is left open. The children at many a lonely section house on the railroad beguile the long winter days with feeding these pets. At Glen Alpine I had good opportunity to observe them, for there the watchman had a tray filled with crumbs, nailed to the window ledge. At this the chickadees would be feeding every hour of the day, sometimes five or six at a time. They were continually uttering their "chick-a-dee, dee, dee." A bit of salt pork hung up by a string furnished an especial relish. Some were clinging to it head downwards, most of the time. They were omnivorous eaters, but seemed to like best soaked cracker crumbs. To this feeding place at Glen Alpine they came from at least half a mile distant. I have watched them fly from tree to tree making directly for the kitchen window. In the woods the chickadees appear to feed upon insect life, but what I do not know.

Alta, California.

Explanatory

BY LYMAN BELDING

WHEN the Land Birds of the Pacific District was published I excluded considerable matter that was intended for it. This consisted of notes on the food of birds, so-called correlative phenomena, miscellaneous matter contributed by myself and Signal Service reports I had copied at San Diego, in the Sacramento Valley, and at the summit of the Central Pacific R. R. I stated on page 2 that the data on food was meager, and therefore unsatisfactory, and I might have added, somewhat contradictory.

The so-called correlative phenomena contained some very interesting items, but was used sparingly because it related distantly, if at all, to the coming of the birds. The Signal Service reports had apparently no closer connection with migration than the correlative phenomena. Possibly some other person might have considered the excluded matter as having more value than I attached to it.

I have been asked why I cited Fort Yuma and Fort Mojave records. It was because I knew that old Fort Yuma was on the west bank of the Colorado. Fort Mojave was on the east bank but I knew that Dr. Cooper had collected on both sides of the river. I also knew that the early ornithologists were not careful to name the precise locality where they got their specimens. I had seen *Ampelis garrulus* in Plumas County, July, 1885. Another of Dr. Cooper's Fort Mojave species, *Toxostoma crissale*, I had taken on the west side of the Colorado River, latitude about thirty degrees, in May of the same year.

At several stations there was more than one observer, and this was responsible for my unusual method of giving credit.

I placed the manuscript in Mr. Bryant's hands, and expected him to attend to its publication. He did so partly, and during his absence from the Academy of Sciences I was requested to visit San Francisco and finish reading the proofs. I discovered that in the effort to abbreviate, a few errors had crept into the volume, some of which I corrected and others I overlooked, while it was too late to correct a

few others. I may refer to them in the future, though they are not very important.

I did a great amount of work of which its pages bear no evidence. I spent most of the summer and autumn of 1885 in studying the food habits of the birds in orchards, vineyards, grain fields, pastures, in valley and mountain. I had previously been somewhat familiar with them but examination of bird stomachs gave me some surprises. I found wheat in stomachs of birds that I had not suspected of eating it, including *Melanerpes f. bairdi* and *Asyndesmus torquatus*. I discovered that the former stores acorns and eats them without reference to any worm they may contain, thus exploding the venerable theory of its selecting acorns that would later on contain worms and that the anticipated grub was the sole desideratum. This bird is very fond of mulberries; nevertheless it is quite harmless. I had often seen *Scolecophagus cyanocephalus*, *Sturnella neglecta* and *Aphelocoma californica* probe the ground for the kernel of wheat at the root of the young plant, frequently destroying it, had shot them and found their stomachs full of soft wheat and nothing else except a little soil. But I had seen these and nearly all of the birds feeding principally upon locusts which were very destructive throughout a large portion of California in 1885 and I knew that a just verdict could not be rendered for or against many species until an immense amount of testimony was taken in all sorts of localities at all times of the year. My first impulse was to publish notes on food of hawks, owls, and game birds, of which I had positive opinions. I was aware of the great usefulness of the hawks and owls which remain in California during summer—especially the red tailed hawk and burrowing owl.

MIGRATION. The simple fact is that the north coming migrants arrive in California, at least, about the same time every spring, without regard to temperature or state of vegetation, though the latter is about a month later some seasons than others. My observations at San Diego during the migratory periods of 1884 and 1885 led me to think differently, but long continued observations in central California have convinced me of the correctness of the above assertion. There are no temperatures so low as to check the spring migrants west of the Sierra Nevada.

The Lower Sonoran life zone extends north of the 40th parallel in the interior of California. Oranges ripen earlier at lat. 39° than at Los Angeles, lat. 34°.

It is said of Thoreau that upon seeing a certain flower he remarked that it was time for a certain bird to arrive from the south. It would be impossible to make accurate predictions of that sort in California, and quite impossible for birds to make their spring arrival accord with flowering of the plants. A few examples will demonstrate this. Mr. Proud reported almond blossoms at Chico, February 1, 1885; Mr. Palmer reported them at Berkeley, February 6, 1895. Berkeley is nearly three degrees of latitude south of Chico. March 10, 1886, vegetation was about ten days earlier at Gridley than at Stockton, Livermore, Niles and Hayward, all of which are more than three degrees south of Gridley. Here I should say that plants are not always earlier at Gridley than at Stockton. At Gridley leaves on deciduous oaks were about two inches long February 22, 1886. They were just perceptible at Stockton February 28, 1900. The oaks were slightly tinged with green at Stockton April 1, 1903. Some of the birds arrived at Stockton earlier the cold backward spring of 1903 than in the mild early one of 1900. The martin (*Progne s. hesperia*) came in cool, stormy weather March 7, 1903, *Empidonax trailli*, *Contopus richardsoni*, *Icteria v. longicauda*, *Zamelodia melanocephala* and others came between April 25 and 29 against a strong cool north wind, the two last named in moderate force. Many grosbeaks were singing the 25th.

During the remarkable cold winter of 1902-3 the lowest temperature at:

Poway	alt. ^a 460 ft., lat. 33°	was 27	Sacramento	alt. 35 ft., lat. 39°	was 29
Riverside	" 851 " " 34	" 24	Auburn	" 1310 " " 39	" 26
Fresno	" 293 " " 37	" 25	Marysville	" 67 " " 39+	" 27
Stockton	" 23 " " 38	" 25	Red Bluff	" 307 " " 40+	" 27
Valley Springs	" 678 " " 38	" 26			

It will be seen that a considerable increase in latitude and altitude has but little influence in modifying temperature in the interior of California.

I have known spring to be backward in the valley and early in the mountains. At Stockton in the spring of 1897 vegetation was very much behind average seasons and equally late at Murphy, altitude 2300 feet. Supposing it would be correspondingly late at Big Trees, altitude 4700 feet, I delayed going there until May 28, when to my surprise I found the plants about two weeks earlier than I had ever seen them in any of my numerous visits to the place. The locust and the purple lilac had blossomed about the middle of May, while June 15 is about the average time at this locality.

Dr. J. W. Williams reported spring a month earlier than usual at Fort Walla Walla (latitude 46°, altitude 200 feet) in 1885. Mr. John Fannin, at Burrard Inlet, B. C., latitude about 50°, reported the gardens "gorgeous with apple blossoms April 4, 1885. The only remarkable feature of the spring is its mildness which has continued since the last week in February. The only remarkable arrivals are *Hylcichla ustulata* and *Dendroica auduboni* which came nearly a month earlier than last season. Our winter residents have, however, started north at about their usual time with one or two exceptions." Of 1884 he said "the weather from April 1 was one continuous stretch of fine weather and yet this circumstance does not appear to have caused the arrival of migrants any earlier than former years; on the contrary in some cases they have been later." I call attention to what Mr. Fannin says of the migrants and also the early flowering of apples. Mr. T. S. Palmer reported apples in full bloom at Berkeley March 31, 1885, a difference of only five days.

The data on flowering of plants though interesting was of little value for purposes of comparison. At Walla Walla Dr. Williams gave dates of flowering of many plants but only one of his species was mentioned and that by a single observer.

Stockton, Cal.

Nevada Notes

BY WILSON C. HANNA

(Concluded)

Asio wilsonianus. Long-eared Owl. One pair was found nesting in a thorn bush near Stone House May 10.

Speotyto c. hypogæa. Burrowing Owl. Not uncommon.

Ceryle alcyon. Belted Kingfisher. Not uncommon.

Colaptes c. collaris. Red-shafted Flicker. A few observed.

^a The altitudes here given are approximately correct.

Phalænoptilus nuttalli. Poor-will. One seen on the mountains near Golconda at an elevation of about 6000 feet.

Chordeiles v. henryi. Western Nighthawk. Common.

Tyrannus tyrannus. Kingbird. A few observed in June.

Tyrannus verticalis. Arkansas Kingbird. Common. One pair built a nest on top of a box car.

Sayornis saya. Say Phoebe. Common.

Otocoris a. leucolæma. Pallid Horned Lark. Very common in the fields in May and June.

Pica hudsonia. Black-billed Magpie. Not uncommon.

Corvus americanus. American Crow. A few observed early in May.

Molothrus ater. Cowbird. Common. Eggs were taken from nests of warblers, blackbirds and orioles.

Xanthocephalus xanthocephalus. Yellow-headed Blackbird. A colony was found breeding in a tule marsh about seven miles east of Golconda.

Agelaius phœniceus. Red-winged Blackbird. Common.

Sturnella neglecta. Western Meadowlark. Very common.

Icterus bullocki. Bullock Oriole. Not uncommon.

Scolecophagus cyanocephalus. Brewer Blackbird. Very common.

Carpodacus m. frontalis. House Finch. A few observed in the yard of the Golconda Hot Springs Hotel among the cottonwood trees June 30.

Chondestes g. strigatus. Western Lark Sparrow. Common.

Zonotrichia l. gambeli. Gambel Sparrow. One collected at Stone House early in May.

Spizella breweri. Brewer Sparrow. A few seen in the brush at Stone House.

Amphispiza b. nevadensis. Sage Sparrow. Found in the brush near Iron Point.

Oreospiza chlorura. Green-tailed Towhee. Common in the canyons near Golconda at an elevation above 5000 feet.

Zamelodia melanocephala. Black-headed Grosbeak. Common.

Piranga ludoviciana. Western Tanager. Rare. Three individuals seen on the following dates: May 27, May 28, June 17.

Petrochelidon lunifrons. Cliff Swallow. Common.

Hirundo erythrogastra. Barn Swallow. Common.

Clivicola riparia. Bank Swallow. Common.

Ampelis cedrorum. Cedar Waxwing. One pair seen near Iron Point June 13.

Lanius l. excubitorides. White-rumped Shrike. Common. One nest observed contained seven eggs.

Dendroica æstiva. Yellow Warbler. Common in the rose and willow thicket where they nested.

Cinclus mexicanus. Dipper. One observed in a canyon near Golconda at an elevation of about 6000 feet.

Oroscoptes montanus. Sage Thrasher. Observed in brush near Stone House.

Salpinctes obsoletus. Rock Wren. Several observed. On June 10, a nest containing young was located among the rocks of a rocky railroad cut.

Merula m. propinqua. Western Robin. Common.

FROM FIELD AND STUDY

Wilson Snipe, *Gallinago delicata* (Ord.), in the Hawaiian Islands.—A specimen of this well known game bird was brought to me at the Museum for examination and identification by Mr. I. Spalding of Honolulu, who secured it on March 8th 1903, while enjoying a day's gunning on the windward side of the island of Oahu in the vicinity of Kailua. It was a female bird in splendid condition and plumage. Until the present record the status of the species in the Hawaiian Islands was based on the single individual recorded by Mr. H. W. Henshaw, of Hilo, as being secured on the Island of Hawaii, (Auk, XVII, 1900, p. 204). Mr. Spalding assures me that on a previous occasion while shooting, he put up this same species but was not so fortunate as to secure it.—WILLIAM ALANSON BRYAN, *Curator of Ornithology, Bishop Museum, Honolulu, H. T.*

The Albatross Dance at Sea.—About the last of March (1904), while cruising a hundred miles off San Diego, California, on the steamer "Albatross," Dr. Charles H. Gilbert of Stanford University observed a group of about six brown gonyes (*Diomedea nigripes*) pair off and engage in their peculiar dance. The birds, of course, were resting on the surface of the water, which was rather rough. The writer has described this dance elsewhere (U. S. Fish Comm. Bull. 1903, p. 22; Auk, XXI, Jan. 1904, pp. 11-14) as it was observed at their breeding ground on the island of Laysan, Hawaiian Group. At this locality Dr. Gilbert also became perfectly familiar with the performance, and at once recognized the familiar bowing and pointing of beaks in air. The second step, that of placing the bill under the wing, was also given. The distance was too great to detect the ridiculous groan which the birds utter at the end of each dance.

At that date the brown gony should have been feeding young on its breeding grounds—the scattered islets to the westward of the main Hawaiian Group. Dr. Gilbert states that he observed no individuals with the white tail coverts which are characteristic of the fully adult bird. Possibly these birds, which linger off our coast during the breeding season, are all young. The writer shot several in March 1902, about five hundred miles west of San Diego, and all of these were immature.—WALTER K. FISHER.

Icterus bullocki as a Honey-eater.—While preparing some skins of the Bullock oriole last spring (1903) I noticed that the neck feathers of several were considerably soiled by honey that oozed out of the bill and a shot hole in the crop. I remember that this particular male was running honey from its mouth when I picked it up. I had shot it to see why it was feeding so earnestly from the heart of certain blossoms, as I had often observed them to do before, on their first arrival in the spring. Numerous insects are attracted by the sweets of the eucalyptus flowers, which afford many of our small birds—such as *Dendroica auduboni*, *D. coronata*, *Calypte anna*, *Regulus calendula*, *Carpodacus m. frontalis*, and various juncos—food throughout the winter. The orioles delighted in sipping blue gum honey in preference to hunting insects through the orchard or creek trees. During the past winter large numbers of Audubon warblers were continually fluttering over the eucalyptus blossoms, picking insects or drinking honey. Many warblers were noted as having a black sticky substance adhering to the feathers about the bill. This is derived from the pollen and honey of eucalyptus flowers, combined with dirt from the ground, where the birds feed on cold mornings, when there is no insect food moving at large. On several occasions *Scolecophagus cyanocephalus* were seen feeding from the blue gum blossoms.—W. OTTO EMERSON, *Haywards, Cal.*

The Western Evening Grosbeaks at Pescadero, San Mateo Co., Cal.—On January 10, 1904, a flock of about forty *Coccothraustes v. montanus* lit in a large eucalyptus tree which stands a few feet from the house. This is the first time I have seen these grosbeaks since April 17, 1902 when I observed a flock of eleven. I first noted the evening grosbeak about January 1, 1899, when I found a flock feeding upon dry maple seeds which cover the trees. I shot one bird which was identified by Mr. Littlejohn of Redwood City. They were rather numerous until the middle of April. During the winter of 1899-1900, and the following winter grosbeaks were very numerous, arriving in October and departing in March or April. But the next winter, 1901-1902, they came in limited numbers, while in the succeeding winter they did not come at all. The grosbeaks were always seen in flocks ranging in number from six to fifty and were generally found in the maple groves along creeks where they fed on the dry seed.—WILLIS H. JACKSON, *Pescadero, Cal.*

A Labor Saving Egg Blower.—For the past year or two I have used the device described below for blowing eggs, and while not practicable for very small eggs, it can be used with care for any that are over an inch in length. For large sets of large eggs it is simply invaluable as its

use not only saves one the fatigue of blowing by the mouth, but it does the work much more quickly. It also enables the particular collector to blow his large eggs with small holes—for instance, a large hawk's egg can be completely blown with a 1-16 hole, and with one of double that diameter they can be emptied in double-quick time.

The vital feature of this outfit is a little foot-pump sold by physicians' supply houses, for use with atomizers. It is four by one and one-half inches when closed, and its interior may be used for storage when traveling. From it runs a rubber tube up to the work table, on which lies a pure rubber ice bag closed by a doubly perforated cork, through which are two small glass tubes. One of these is attached to the tube coming from the pump, the other has a tube running to the blow pipe. To use it, insert the fine glass tip into the egg, and pump with the foot. The pressure expands the rubber icebag which renders the jet from the blowpipe uniform, steady and continuous, and at the same time the swelling of the bag is a gauge by which one can control his pressure, as it is easy to burst a small egg with this pump. If many eggs are to be blown, one may attach a Y or two, and then two or three persons can work at once from the same pump.

I have been surprised at the extent of my patience in blowing a large egg, when I did not need to provide the necessary force with my cheeks, and am sure that the result has been for me, better specimens with less labor. Sometimes I have found it well to put a second icebag over the first, thereby doubling the pressure, where two persons are working together.—W. E. SAUNDERS, *London, Ontario.*

A Sage Sparrow in Boulder County, Colorado.—On March 18, 1904, I obtained a sample copy of *Amphispiza belli nevadensis* here on my farm, ten miles north of Boulder. Only the one bird was seen. The A. O. U. Committee requires this species to inhabit the "Great Basin." W. W. Cooke in his research for the material for his "Birds of Colorado" and two "Supplements" could find but one record "East of the Front Ranges" viz., a specimen taken by Mr. F. Bond, near Cheyenne, Wyoming.—FRED. M. DILLE, *Longmont, Colorado.*

The Coues Flycatcher as a Guardian of the Peace.—All who are interested in bird life are acquainted with the pugnacious tendencies of flycatchers. My observations have been principally confined to the Coues flycatcher, probably the most alert and warlike member of the family. During the breeding season, while the female is on the nest, the male may be seen nearby on one of his numerous perches, usually on the top of some dead tree, where he sits on guard from daylight until dark. Occasionally he darts off to catch an insect, and at short intervals utters his never-changing note, which gives him his Mexican name. This note is best described in Spanish, and sounds very much like Jose, Jose-Maria. There is no mistaking the bird once you have heard him, for he tells you his Mexican name with proper accent. From the last two syllables he is often called the Jose Maria bird—simply the names of Joseph and Mary in Spanish.

The Coues flycatcher is a lively, wide-awake fellow, and while sitting on his lofty perch he keeps a sharp lookout for any of his numerous enemies who may venture too near his dwelling place. The moment a jay, hawk, squirrel or snake makes its appearance, the flycatcher leaves his perch and pounces upon the intruder, at the same time giving the note of alarm which never fails to bring the female to the scene. Then there is a snapping of beaks, and a regular whirl of wings and tails about the unwelcome visitor, who is forced to leave the locality faster than he came.

With all his warlike proclivities, the Coues flycatcher has another quality—that of attracting friends—which is equally strong. Among the more timid birds he numbers a host of friends who seem to be conscious of the existing bond, and very readily take advantage of it. My attention was first called to this fact in the Huachuca Mts., Arizona, in 1896, when on my first trip to that section, in company with H. S. Swarth, H. G. Rising, and W. B. Judson. While we were all walking up the canyon above our camp, one of our party found a nest of the plumbeous vireo, on a low branch of an oak, within reach from the ground. We were in the act of taking this nest, which contained a set of eggs, when one of us observed a nest of the hepatic tanager in another oak, not more than twenty feet distant. Naturally our attention was turned to the new find, when some one else caught sight of still another nest on a branch of the same limb containing the tanager's. Upon flushing the bird, it proved to be a Coues flycatcher. I was soon up the tree where I could see into both nests, as they were close together on the same level, and each contained eggs. To come to the point for which this paper was written, here on the same limb, not more than four feet apart, was a nest of the Coues flycatcher and one of the hepatic tanager, with a nest of a plumbeous vireo not more than twenty feet from the others. All these nests contained full sets of eggs, showing that nest building had been carried on at the same time in all three cases. Naturally we wondered how these three pairs of birds, including the belligerent flycatcher, could get along in perfect harmony, building their nests and sitting on their eggs side by side. Not until later years did I have opportunity to observe the cause and effect of the

relation between these pugnacious flycatchers and their more timid friends. On many occasions, in seasons following, I found nests of various warblers, vireos, tanagers, and other birds in close proximity to nests of the Coues flycatcher. Once, by using a small cloth scoop on the end of a pole I took a set each of Coues flycatcher and a black-fronted warbler, without changing my position in the tree. Another time I took a set of olive warbler and a set of black-fronted warbler from the same tree, and a set of Coues flycatcher from a tree not more than fifteen feet distant. In these, as well as in many other instances, I had the opportunity to learn the reason for these family gatherings. In the locality where my observations have been made, the smaller and more peaceable birds suffer great loss from snakes, squirrels, and jays. Probably the most bitter enemy of the smaller birds is the long crested jay, who is continually in search of their nests. When the jay locates a nest, his call-note brings as many as half a dozen of his hungry comrades to the scene, and under a feeble attack from the parent birds, the eggs or young, as the case may be, are carried off or devoured on the spot. Many times, even, the nest is torn into shreds. All this, however, does not occur when there is a nest of the Coues flycatcher in the vicinity, for upon the first alarm, the flycatcher comes to the rescue, and the would-be assailant is forced to leave. This wholesale slaughter seems to teach these much imposed upon species to seek the protection of the more independent flycatcher.—O. W. HOWARD.

Road-runners Eat Young Mockingbirds.—Mr. Leroy Abrams of the department of botany, Stanford University, states that while he was collecting plants in the Mission Valley near San Diego, California, between May 1 and 10, 1903, his assistant observed a road-runner (*Geococcyx californianus*) remove from a nest a young mockingbird and devour it. Both road-runners and mockingbirds are common at this locality. It is known that road-runners eat eggs, but I have never heard of their killing young birds. How general is this habit? Have our readers any observations on this point?—WALTER K. FISHER.

THE EDITOR'S BOOK SHELF

BIRDS OF THE HUACHUCA MOUNTAINS, ARIZONA. By HARRY S. SWARTH. Pacific Coast Avifauna No. 4, pp. 1-70, April 15, 1904.

It affords us great pleasure to call attention to this interesting contribution to the ornithology of southeastern Arizona, and to commend the thoroughness of the work. It is based, with the exception of a few scattered records, on observations made and specimens collected by the author, W. B. Judson, H. G. Rising and O. W. Howard during three visits to the region in 1896, 1902, and 1903. It certainly is refreshing to find a paper entirely devoted to the life histories of birds—a subject of absorbing interest—and not given over to descriptions of closely split subspecies, the principal function of which is to burden the already plethoric pages of synonymy. The arbitrary limiting of the list to such species as occur in the mountains proper, above the surrounding plains may be in some respects a good plan, though by its adoption certain valley forms noted near the canyon openings are included, while others of similar distribution are omitted. Moreover, interesting information relating to the migration and distribution of water-fowl and waders in the San Pedro and Barbocomari valleys is necessarily left out. Although the author has had phenomenal success in securing a large amount of material, it may not be out of place to make the list more complete by adding the following species which have come directly or indirectly under the observation of the reviewer.

Lophortyx gambeli. Examples of this quail were shot by one of the officers at Fort Huachuca near the post in January, 1895. *Scardafella inca*. Mr. R. D. Lusk secured two specimens in Ramsay Canyon, one in 1891, and the other on Sept. 15, 1894. *Urubitinga anthracina*. During May and early June, 1892, this species was seen on several occasions near Fort Huachuca. Although no specimens were secured the broad white single band on the tail served to identify them. *Asio wilsonianus*. A specimen of this owl was secured near Fort Huachuca April 28, 1892. *Micropallas whitneyi*. On May 7, 1892, my lamented friend Major J. L. Fowler found one of these little owls in a clump of oak leaves where it was secured. A month later Mr. Frederick H. Fowler discovered a female and three eggs in an old woodpecker's hole, in the canyon above the Fort. *Calypte anna*. Mr. Fowler took two specimens of this hummer at the Fort, Oct. 12, 1892, and Mr. H. Kimball one, Sept. 11, 1895. *Otocoris alpestris actia*. Three specimens were taken by Mr. Fowler Jan. 10, 1893. *Xanthocephalus xanthocephalus*. This blackbird is considered a common winter resident about the Fort. One was seen there May 4, 1892, and others in the valley below fully three weeks later. *Amphispiza belli nevadensis*. Secured by

Mr. Fowler Nov. 5, 1892. It is said to be a tolerably common winter resident. *Passercella iliaca schistacea*. A specimen has been examined which was taken by Mr. H. Kimball Nov. 20, 1894, in the Huachuca mountains. *Progne subis hesperia*. Purple martins were seen about the Post May 4 and again May 15, 1892. *Dendroica virens*. An adult male was examined which was secured by Mr. R. D. Lusk in Ramsay canyon May 9, 1895. It may be stated that the record of the house sparrow (*Passer domesticus*) in Bulletin No. 1 is based on an erroneous identification and should refer to the house finch (*Carpodacus mexicanus frontalis*).

Turdus guttatus auduboni and *Regulus calendula* breed in the Chiricahua mountains where nests were found in 1894, and it is therefore probable that they will be found in some of the more inaccessible parts of the Huachucas in summer. This general area including the Huachuca mountains and the more extensive Chiricahua range to the eastward affords one of the most inviting fields in the United States for carrying on ornithological studies. The presence of many Mexican species which find congenial homes in the many numerous canyons among the heavier timber of the upper parts, furnish a strong incentive for continued search after other rarities.—A. K. FISHER.

BIRDS OF CALIFORNIA, An Introduction to More than Three Hundred Common Birds of the State and Adjacent Islands with a Supplementary List of Rare Migrants, Accidental Visitants, and Hypothetical Subspecies. By IRENE GROSVENOR WHEELOCK. With ten full page plates and seventy-eight drawings in the text by Bruce Horsfall. Chicago. A. C. McClurg & Co., 1904 (February) pp. 1-xxviii, 1-578.

In this volume of 600 pages the publishers have taken much care to provide a book of pleasing appearance. The flexible green covers and excellent quality of paper contribute to an agreeable ease in handling. The numerous illustrations are mostly quite good for their kind. But we regret that we cannot recommend so highly the accompanying text. The many misstatements and slighter inaccuracies seem to indicate a limited knowledge of our literature, as well as an inadequate personal acquaintance with many of the common species. To be frank, there are so many obvious slips, that we cannot help doubting the general trustworthiness of the book throughout. The rapid increase in our knowledge of birds and their habits requires the exercise of judicious discrimination on the part of anyone who feels called upon to compile life-histories, together with long and intimate acquaintance with the birds themselves. Perhaps an occasional resort to the gun would have resulted in a less sweeping generalization in regard to "regurgitation" than is hurled at the reader in the preface! We can agree that the "Birds of California" is much of it written in an interesting style, and is sure to be read with interest by the popular contingent. Of course an error now and then is not likely to be detected by the susceptible amateur, so that the book may be appreciated just the same. Yet it does not appear to us up to the standard of exactness demanded in the present stage of California ornithology. In view of the above remarks, detailed criticism seems hardly worth while.—J. GRINNELL.

A REVISION OF THE NORTH AMERICAN MAINLAND SPECIES OF MYIARCHUS. By E. W. NELSON. From Proc. Biol. Soc. Washington, XVII, March 10, 1904, pp. 21-50.

Mr. Nelson has given the North American mainland species of Myiarchus a thorough overhauling in the present paper which covers all the species and subspecies of the genus known to occur in the mainland of North America north of the Isthmus of Panama. In addition, the birds of Cozumel Island near the coast of Yucatan, and the Tres Marias Islands off the coast of Tepic, western Mexico, have been included.

"The genus Myiarchus appears to reach its greatest development in the American tropics, including the West Indies, with a limited number of forms ranging well up into temperate North America. These most northerly representatives of the genus are *cinerascens*, which reaches the northern border of the Upper Sonoran zone on the west coast in Oregon, and *crinitus* which crosses the Transition zone of eastern America to southern Canada and New Brunswick. *M. lawrencei* and its subspecies is the most widely distributed of the North American species, with a breeding range extending from the Isthmus of Panama to Southern Arizona and the Tres Marias Islands. The species of most limited distribution is probably *M. yucataensis*, found only on the peninsula of Yucatan and on Cozumel Island."

The introduction also touches upon questions of nomenclature, the moult, and calls attention to the fact that the dusky pattern on the tail feathers of rufous-tailed species has a considerable range of variation in extent. *Myiarchus nuttingi* from Arizona thus turns out to be the female of *cinerascens*. "By the examination of several hundred specimens of the various species it has been demonstrated that the dusky pattern on the inner webs of the outer tail feathers (and to a similar degree on the inner tail feathers) of *cinerascens*, *mexicanus*, *crinitus*, and *nuttingi* with

their subspecies have a wide range of variation in extent, though usually preserving a characteristic outline, although at times this also disappears. Thus we have the dusky area practically gone on the inner web of the outer tail feather of some of the females of *cincrascens*, producing a feather exactly as in *nuttingi*."

Nineteen species and subspecies are recognized of which three, *M. lawrencei bangsi*, *M. l. querulus*, and *M. l. tresmariae* are new. A key to the species and subspecies of the genus is, also given.

DESCRIPTIONS OF NEW BIRDS FROM SOUTHERN MEXICO. By E. W. NELSON. From Proc. Biol. Soc. Washington XVI, Nov. 30, 1903, pp. 151-160.

Mr. Nelson gives descriptions of thirteen new species of Mexican birds from the collection of the Biological Survey. One of the most remarkable of these is the Omilteme jay, *Cyanolyca mirabilis*, from Omilteme, Guerrero. It is marked with a band of silvery white extending across forehead and back over the eyes behind the ear coverts to unite with a large white area covering the throat and under side of neck. The rest of the head is black and the body dull indigo blue.

A NEW GROUSE FROM CALIFORNIA. By FRANK M. CHAPMAN. From Bull. Amer. Mus. Nat. History, XX, Art. XI, pp 159-162, April 25, 1904.

Mr. Chapman has described the common grouse of the Sierra Nevada Mts., under the name *Dendragapus obscurus sierrae*, the type coming from Echo, El Dorado Co. It is a much paler bird than *fuliginosus*, and although probably derived from this form looks more like *obscurus*. The range is: "California in the forested portions of the Transition and Boreal zones, 'east of the humid coast belt, and south through the Sierras to Mount Pinos' (Grinnell); north to Fort Klamath, Oregon."

ADDITIONAL NOTES TO SUMMER BIRDS OF FLATHEAD LAKE, WITH SPECIAL REFERENCE TO SWAN LAKE. By PERLEY MILTON SILLOWAY, Bull. University of Montana, No. 18, Biological Series No. 6. 1903. pp. 291-308, 5 plates.

This paper includes a description of the physiographical features of Swan Lake, Montana, and under Oological Notes, additional observations on the nests and eggs of a considerable list of species. Under Notes on New Birds are listed with annotations eleven species not included in the "Summer Birds of Flathead Lake." The paper concludes with a list of all the summer birds which have been observed about Flathead Lake, numbering 137. A nest of the willow thrush was found in the swampy area near the station. "Instead of being situated near the ground, it was six and one-half feet above, in an upright crotch of an oblique thorny sapling. The nest was typical of the willow thrush in construction, but the site was so unusual in my experience that I collected the owner for complete identification." Numerous other interesting notes bear witness to Mr. Silloway's careful observation and industry.

BIRD LIFE STORIES, BOOK ONE, by CLARENCE MOORES WREED, is a collection of biographies of twenty-four common birds compiled from the writings of Audubon, Bendire, Nuttall and Wilson. These four writers, as the compiler states "are especially notable for the absorbing interest with which they pursued the study of birds. They were all original investigators, exploring the trackless wilderness in their search for knowledge." Each sketch is followed by a short paragraph defining the geographical distribution of the species. There are also twenty-four portraits from mounted specimens reproduced by the three color process. This book which is to be followed by two others, is intended for use in the higher grades, for which purpose it should prove acceptable. (Square 12 mo, 86 pages, 12 plates; Rand, McNally & Co.)

III BIRDS FROM BENGUET PROVINCE, LUZON, AND FROM THE ISLANDS OF LUBANG, MINDORA, CUYO AND CAGAYANCILLO (Bull. Philippine Mus. 3, Jan. 30, 1904) Richard C. McGregor records all identified species of birds collected or observed on recent expeditions to the above localities. The paper includes zoographical notes, accounts of undescribed plumages and notes on the rarer species.

BIRD-LORE for March-April is an unusually attractive number, and contains three general articles, all very readable. The splendid series of warbler plates is continued, there being two in this number, the frontispiece representing the Canadian and Wilson, and the second plate the black-throated green and golden-cheeked. There are three pages of Notes from Field and Study, and the Audubon Society Section concludes with Educational Leaflet No. 8, The March Hawk, by William Dutcher, illustrated by L. A. Fuertes. For Teachers and Students contains the third instalment of The Migration of Warblers by W. W. Cooke. Under "The Warbler Book" the editor asks for cooperation of bird students in securing information regarding the habits of warblers, as noted in another column of this issue.

THE BULLETIN OF THE MICHIGAN ORNITHOLOGICAL CLUB commences its fifth volume considerably enlarged and clad in an attractive new cover depicting the Kirtland warbler among its native pines. The opening article, by Norman A. Woods, is on the Discovery of the Breeding Area of Kirkland's Warbler, recounting the finding of the first nest and egg of this species in Oscoda County, Michigan, in July, 1903. Charles A. Adams contributes The Migration Route of Kirtland's Warbler. There are besides, Editorials, Recent Literature, Correspondence, Notes from Field and Museum, and a page devoted to the Michigan Audubon Society, newly organized.

THE JOURNAL OF THE MAINE ORNITHOLOGICAL SOCIETY is in a flourishing condition, judging by the April issue which contains a number of good bird articles, among which may be noted: Notes on the Warblers found in Maine, The Woodcock, Notes on the Finches found in Maine, and numerous short local notes.

THE AMATEUR NATURALIST, A Journal for Those Who Study Nature from a Love of It, is edited and published by Chas. D. Pendell, at Binghamton, New York. The second number, March, contains short articles on a great variety of subjects of popular interest extending over the general departments of zoology, botany and geology. It is the aim of the editor to publish a magazine "along the line of nature study in a popular, understandable form, interesting yet reliable and accurate."—W. K. FISHER.

NOTES AND NEWS

The Southern Division of the Cooper Club, at their April meeting, decided to again take up the matter of revising the "Birds of the Pacific Slope of Los Angeles County." Mr. Joseph Grinnell was newly elected to take charge of the undertaking, and the former committee was instructed to turn over to him all the material thus far accumulated. It is the intention of the Division to publish the paper, within the coming year, as number five of the Pacific Coast Avifauna series. All who are in a position to furnish data for the new list are urged to communicate at once with Mr. Grinnell.

Messrs. Swarth, Robertson, and Lelande left on the first of May to explore ornithologically the almost unknown mountainous portions of Ventura county. With such a trio of expert field observers, we shall expect some valuable accounts of rare discoveries for our July issue.

From March 26th to April 2nd, a very successful camping and collecting trip was participated in by a party of Cooper Club members from Throop Polytechnic Institute, Pasadena. A central camp was established in the Tujunga Valley, northern Los Angeles County, and the surrounding region explored for various natural history objects of interest. Mammals and birds received most attention, and some rare specimens and photos of both were secured. Those comprising the party were: Messrs. Rex Barnwell, Joseph Dixon, Crawford May, Philip Pinger, H. T. Clifton, and Joseph Grinnell.

Messrs. Lelande and Howard of the Southern Division recently made a hurried trip through western Los Angeles county into Ventura county. They traversed an extremely rugged range of mountains among which California condors were surprisingly numerous. As many as eleven were seen circling about overhead at one time, and several nesting aeries were located on the faces of precipitous cliffs.

The demand for Mrs. Bailey's Handbook of Western Birds has been so great as to completely exhaust the first edition. The second edition, just out, presents a number of changes and additions so that the book is brought quite up to date. The horned larks in particular have been revised to accord with recent A. O. U. rulings. Both the publishers and the author are to be congratulated on the well-deserved success of this authoritative text-book.

Mr. G. W. Howard, who is already well known for his careful work with Arizona birds, started early in April on another trip into the extreme southern part of the Territory. He goes this time in the interests of Mr. J. L. Childs, and is thoroughly equipped for at least three months. He is paying special attention to rare eggs, and has a particular yearning after a set of the rare Mearns quail.

Mr. W. O. Emerson writes that Dr. Cooper's old home in Haywards is to be sold to make way for a new Carnegie Library. We regret very much to learn that the estate is thus to pass out of the family's hands. An effort will be made to preserve some of the trees which the Doctor planted, a laurel, live oak and several cypresses.

An olive-sided flycatcher (*Contopus borealis*), with a lamentable ignorance of life zones, has taken up his residence in the Stanford arboretum, where his resounding orders, "Quit, leave here," may be heard at all times of day.

(Continued on Editorial page)

THE CONDOR

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Ornithology

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WALTER K. FISHER, Editor, Palo Alto
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NOTES AND NEWS

(Continued from page 83)

During the coming summer communications to the editor may be addressed, as usual, to Palo Alto.

Dr. Charles H. Gilbert and Prof. William E. Ritter were on the "Albatross" during parts of March and April. The "Albatross" was engaged in deep-sea dredging off the southern California coast.

We call attention to Mrs. Bailey's interesting article on "Twelve Rock Wren Nests in New Mexico," published elsewhere in this issue, and to the queries proposed. "How general is the Salpinctian use of stones, and what proportion of nests have the walks leading away from them?" Have our field ornithologists any observations to offer?

Mr. John J. Williams, who has been living near Santa Barbara, has moved to Truckee, where he expects to be located during the summer.

Mr. W. W. Price made his usual excursion into the high Sierras early in April.

Mr. R. H. Beck presented a paper entitled, "The Galapagos Islands and Their Inhabitants" at a meeting of the Section of Ornithology of the California Academy of Sciences, May 3d.

One correspondent earnestly desires that we present in THE CONDOR more articles of a popular nature. Unfortunately we cannot publish for the benefit of our readers what does not reach our sanctum, however much we might wish to do so! As a matter of fact the responsibility for the lack of this sort of material rests not with the editors but with the persons who object to faunal lists and other more or less technical matter. At the present time we are publishing a much greater percentage of popular than technical articles, and are perfectly willing to increase this difference if the proper material is forthcoming.

Mr. R. W. Williams, Jr., of the Biological Survey will soon return to his home in Tallahassee, Florida, to resume the practice of law.

We learn that Mr. W. L. Dawson, the author of "The Birds of Ohio" intends to move to the State of Washington, where he will undertake, in co-authorship with Mr. J. H. Bowles of Tacoma, an illustrated work upon the Birds of Washington. This book is to be drawn on the lines of the Birds of Ohio, which combines so well the elements of scientific accuracy, popular interest, and attractive appearance. Both gentlemen are thoroughly familiar with the field, each having spent eight years in different parts of the state.

Mr. Frank M. Chapman has in preparation a volume on the Warblers of North America and requests the aid of students of birds throughout the country in the preparation of the volume. "Continued study of our birds," writes Mr. Chapman in *Bird-Lore*, "emphasizes the absolute necessity for many observers if we are to have anything approaching adequate biographies of even a single species * * * Cooperation, therefore, is the watchword of the bird-study of today. Instead of thinking that there is little left to learn, every bird student should feel that it is his special privilege to add to our knowledge of birds in nature. He may not make a novel or startling discovery, but he may confirm some observation which has already been made, and that, as a matter of fact, is second in value only to the original observation itself. An *act* may be attributed to a species on the basis of a single observation; but a *habit*, only after many observations." It is requested that each bird on which a report is made be treated as follows: name of species (scientific and common), local status, migration, song, courtship, haunts, nesting site, nest, eggs, young. Do not neglect sending your observations because they are incomplete. It is unnecessary to add that full credit will be given for all material used. Mr. Chapman's address is Englewood, New Jersey.

Messrs. C. H. Gilbert, Harold Heath, M. H. Spaulding and W. K. Fisher of Stanford University are located on the steamer "Albatross" which is engaged in deep-sea dredging in Monterey Bay.

The May meeting of the Northern Division was held at the residence of Prof. O. P. Jenkins, Stanford University, with a good attendance. Full minutes will be published in the July issue.

The Southern Division of the Cooper Club has recently lost an esteemed member, Prof. George Conant, who died at Long Beach, California, March 29, 1904. Prof. Conant was an enthusiastic naturalist, one of the kind that delights in helping the inexperienced to see and understand the things of Nature. His long life had been spent as a teacher, and in this capacity he had inspired many a boy with true scientific zeal.

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THE CONDOR

A Magazine of Western
Ornithology



Volume VI

July-August, 1904

Number 4



W.K.F.

COOPER ORNITHOLOGICAL CLUB

Essexian Institution

1904

Museum.

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THE RED-FOOTED BOOBY ON NEST, LAYSAN ISLAND

Photographed from Nature by Walter K. Fisher

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume VI

July-August, 1904

Number 4

A Dusky Grouse and Her Brood in New Mexico

BY FLORENCE MERRIAM BAILEY

ONE of our pleasantest field experiences last summer was with an old Dendragapus in the Rocky mountains, which, after a short acquaintance flattered us by coming to accept us as neighbors. We had a hint of the pleasure in store for us as we were packing up the mountains, for when my horse, leading the way for the pack horses, flushed an old cock grouse which had been dusting himself at the foot of a tree close to the trail, he lit again on a branch so near that we could see his small pointed head and craned neck as he watched us. "If they're all as tame as that!"—I thought with a thrill of expectancy. When we had climbed to 11,000 feet we made camp in the blue spruces and established ourselves for our Canadian zone work.

Our neighbors were discovered one morning soon afterwards by Mr. Bailey who, bound for his mammal traps, started up the grassy slope on the edge of camp, a sunny slope dotted with mariposa lilies and bountifully supplied with patches of wild strawberry, which is a favorite mountain delicacy with the grouse. Half way up the hill two little grouse about a third grown, sprang from the long grass at his feet, one whizzing off in one direction and one in another. Quick as a flash the mother grouse appeared from behind a rock close by and 'sputtered and fussed', standing for some time within five feet of the enemy, effectually distracting his attention from her brood. Hoping that she would wait, he called me to bring the camera, but on my approach she started up the hill leading us to the woods, pointing the way with flags flying—head, crest, and tail up, an alert, conspicuous figure.

On reaching the woods I followed Mr. Bailey inside for a short distance to give the old bird time to compose herself, and on my return found her sitting quietly by a log on the edge of the woods. I wanted to get her into the light to photo-

tograph her and she let me drive her a few steps at a time until one of her brood hidden by the log flew up into a tree. Instantly the little hen which had been demurely permitting me to shoo her around, was transformed into the alert, anxious mother, and hurried back into the woods evidently expecting me to follow. Instead, I sat down on the grass and kept quiet.

After some time I was rewarded by the faintest possible call from behind me, and looking keenly in its direction discovered her creeping cautiously out of the dark woods, crest and head down, tail hanging. Not seeing me she came out to the edge of the meadow, mounted a log, and giving a low *cluck*, such as a motherly hen gives when quieting her brood, she emitted two loud characteristic, wild, whistling notes, on the instant leaning forward, craning her neck to listen. From the grass down the slope came a faint quavering answer from her little one—the one that had not been heard from since Mr. Bailey flushed it. At the answer the mother raised her head as if satisfied, and having placed it by her loud cry, called quietly at short intervals as if to draw it toward her.

While she was hunting up her second fledgling, the first one, the one that I had frightened into a tree, flew obliquely down into the grass several rods from the woods. At this the old bird cautiously made her way out to it, creeping through the high grass between the sods as she had come from the woods, crest down, tail hanging, pecking at the grass at each side as she went. The small grouse, on the contrary, stood up as high as its weeks would permit, its dim-



YOUNG BLUE GROUSE, PECOS MTS., N. M.

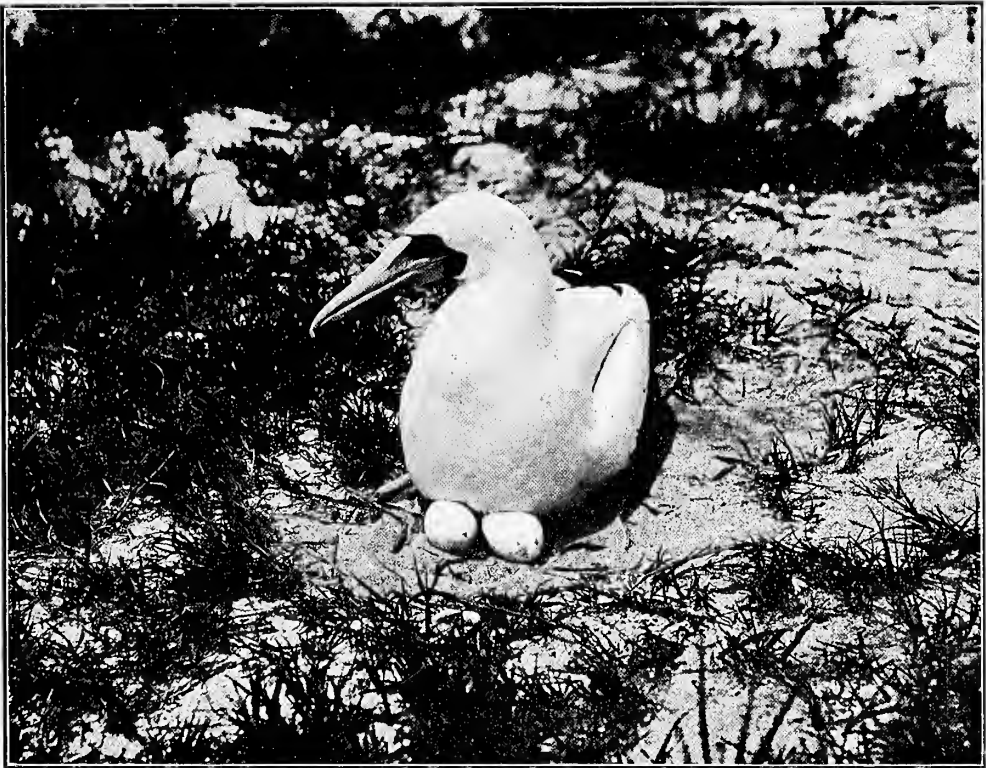
inutive crest raised, eagerly watching its mother's approach. As I appeared on the scene at that point, the old bird drew back a little, but the youngster, quietly making a detour behind my back joined her, and later when I succeeded in photographing the hen, at about seven feet, the chicken was almost in focus also.

Another day we came on the mother and one of her brood out on the open hillside, whereupon the old one promptly flew up into the nearest tree. The little grouse, badly frightened, crouched round-backed and flat-headed in the grass, its heart beats throbbing in its throat. After photographing it we got up within two or three feet of it, when it burst away on its stiff little wings, coming to ground again under its mother's tree. She clucked to it from her branch overhead and it squatted low, almost hidden in the protecting grass. We talked to it soothingly for some time and then drove it gently out into a better light, when quite reassured, before we had time to get a picture, it walked away, its little crest and tail raised in a very cocky manner.

A cold stormy night a week later the old grouse brought her brood into the firs behind our camp, and in the night, when a deer whistled she was so startled

she almost flew into our tent. The next morning her strawberry patch was white with hailstones and we found her sitting humped over a stone, while her two bedraggled young were trying to keep warm under cover of the firs. By this time our little neighbors were so tame that they did not startle when Mr. Bailey shot a hummingbird, and as he said, the only danger was that if we had stayed much longer they would get so tame that some one would shoot them when we left. As we broke camp to go on up the mountains soon afterwards, however, I trust that no harm came through us to the little family that had given us so much pleasure while camped in their woods.

Washington, D. C.



1. BLUE-FACED BOOBY AND NEST

J. O. S.

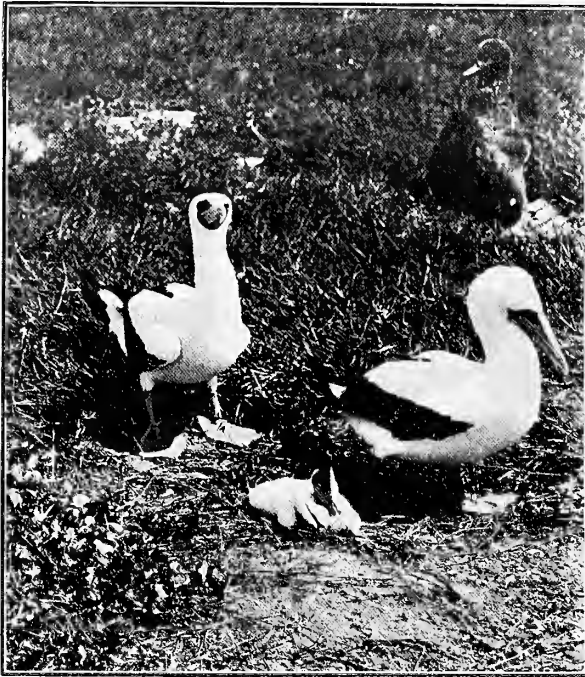
Three Boobies Interviewed

BY WALTER K. FISHER

ILLUSTRATED BY THE AUTHOR AND JOHN O. SNYDER

WE found boobies, at rest, scarcely more difficult to photograph than stuffed birds, provided we exercised elementary caution in approaching them. They made ideal subjects, consequently, for a piping hot day on a tropical islet, since we early discovered that under such conditions one is likely to be

less patient than in a cool forest of a northern zone. We were fortunate enough to make the acquaintance of three species of *Sula* among the islets to the westward of the main Hawaiian Group; namely, *Sula cyanops*, *Sula piscator*, and *Sula sula*. All the accompanying photographs (which are accredited by our respective initials)



2. A BLUE-FACED BOOBY FAMILY

J. O. S.

were secured, however, on Laysan Island, a small atoll about eight hundred miles northwest-by-west from Honolulu. A general description of this wonderful bird metropolis was published under the account of the man-o'-war bird, in the last issue of this magazine (p. 57).

In their actions boobies are less interesting than most tropical sea birds, being at best rather stolid creatures, much given to gazing at their own long faces. They are the phlegmatic, unsentimental, burgomasters of the community, as different in all their actions from the nervous terns or playful albatrosses, as persons of a similar temperament would be. On Laysan, the masked or blue-faced booby (*S. cyanops*) lives only on the

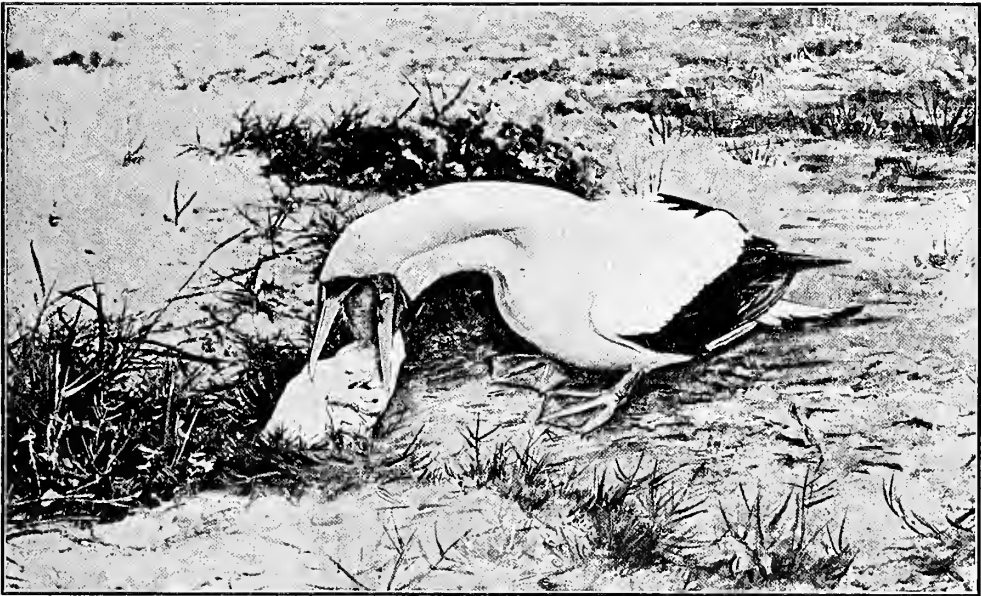
sedgy slope facing the ocean, exposed to spray-laden winds and close to the booming surf. On the inner slopes of the island, facing the lagoon, the species is entirely absent, being replaced by its somewhat smaller congener, *S. piscator*. The homes of the masked gannets are not crowded, colony-fashion, but

3. *SULA CYANOPS* FEEDING YOUNG

W. K. F.

are scattered here and there over the greensward, and one can see them from afar, because there is usually a circular patch of bare sand about each nest—provided the latter is among grass—in the center of which stands the omnipresent sentinel bird. There is really no *nest* at all, the two eggs being deposited on

the sand, with a few dried grasses scratched around them, as if the old bird in her own mind satisfied her sense of possession by thus staking a claim. Very often even the formality of a few grasses is omitted. The eggs are outwardly limy white, the under shell of light blue being often revealed by scratches made while the outer layer was soft. It is apparently characteristic of this species to lay two eggs, and raise but one young. The right of the oldest child of the house of *Cyanops* seems all fixed by law, but in the enforcement of this canon, Nature proves once more that she is not always a kind mother. In other words, it is distinctly rough on the bird which is hatched last. There is evidently a period of several days between the laying of the first and second egg. The chick first hatched is considerably grown before the second appears, and from the peculiar manner of feeding, is able to devour all available food. It is probably true, also, that the old bird is not at all concerned for its second chick, for we found two newly hatched young, one of which had already been trampled to death, as if purposely.



4. BLUE-FACED BOOBY FEEDING YOUNG

W. K. F.

We found young and eggs in about equal numbers, and most of the eggs were far advanced in incubation. The young varied from about a week old down to newly hatched individuals. Often all signs of the second egg were removed, as if the nestling had hatched, and had been devoured by a parent, or some marauding Fregata. But more frequently there would be one nestling and one egg. Sometimes this egg was spoiled, sometimes contained an embryo. The habit of disposing of one of its offspring is not confined to the birds inhabiting the Hawaiian Group, but has been noted also on Clipperton and the Galapagos Islands by Mr. R. H. Beck, who tells me he has observed the old bird strike one of the nestlings, as if attempting to make away with it.

The first afternoon at Laysan we spent on the outer slopes of the islet among the boobies. While stalking some bristle-thighed curlews (*Numenius tahitiensis*) which were ridiculously tame and kept flying a little way ahead, uttering flutelike

notes as they foraged among the wiry salt-grass, we espied an old booby feeding its young, in a highly gruesome manner. The process was promptly photographed at close range, and as sometimes happens, the better of the two exposures (Fig. 4)

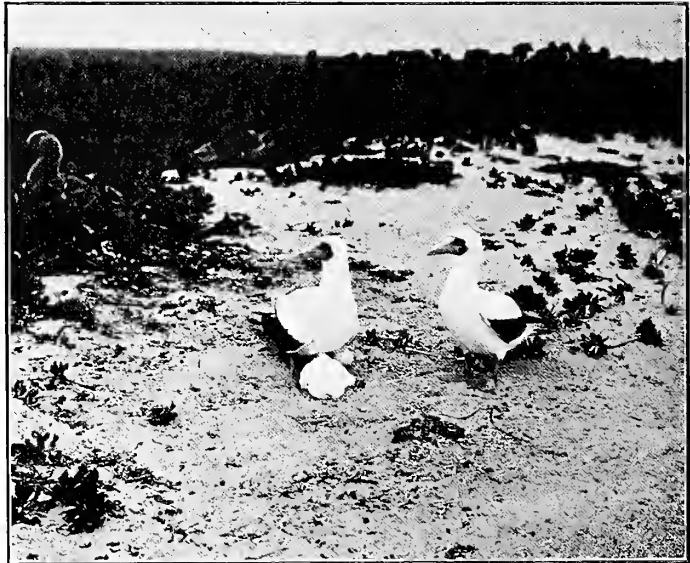


5. BLUE-FACED BOOBY AND YOUNG

W. K. F.

was badly light-struck, the beam almost obscuring the body of the bird. An enlargement was made from this negative, the body touched up, and the result re-photographed. The head, neck, and young bird were not light struck. These two pictures show better than any description the exact manner of feeding. The head of the young is thrust fairly into

the throat of the parent, who disgorges the fish contained in its very spacious stomach. In the few stomachs we examined the flying fish, their favorite food, had been swallowed whole. Whether the mother waits till this is partially digested, or allows the bird to nibble at the end I am unable to say. The latter view seems a bit absurd, but the young kept its head in the throat an inordinately long time, and for several courses in succession. Note the rigidity of the neck muscles, and, in fact, of the whole pose of the old bird. We were on Laysan a week, but did not again witness the feeding.



6. BLUE-FACED BOOBIES, YOUNG, AND EGG

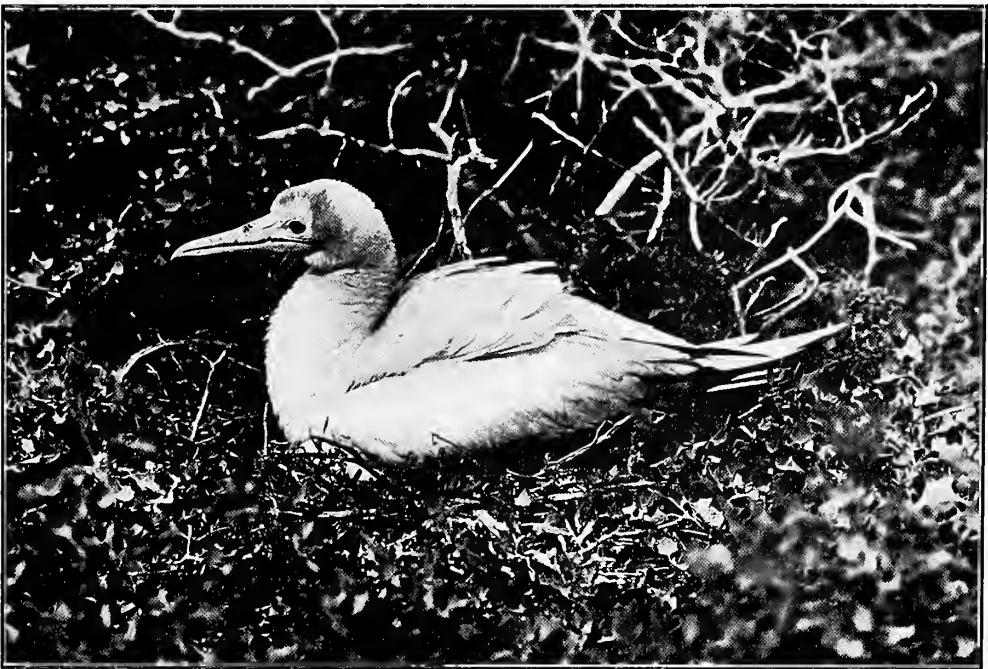
W. K. F.

The young bird nearly always keeps its head under the parent, as shown in

figures 5 and 6, altho the greater part of its body may be exposed to the sun. Both birds take turns in brooding the eggs or watching the nestling. Occasionally both will be seen standing guard together, in an absurd statuesque pose, or gazing sea-

ward or at the sky, as if on the lookout for winged marauders. Frequently they utter a hoarse, strident cry. When the old birds exchange places, which is happening in figures 2 and 6, one slips off the nestling and the other immediately takes its place. The young birds when bereft of protection for a moment, assume very outlandish postures, as shown in Fig. 2. The bird to the right is strutting off with the characteristic ambling swagger. He bit the finger off the photographer's glove a moment later—amiable fellow! In this photograph the tolipalmate feet show admirably. Note also the absence of nostrils.

The red-footed booby, *Sula piscator*, unlike the foregoing species, always builds in bushes, so far as my experience goes, never on the ground. At Laysan it is found in colonies of scattered individuals on the inner slopes of the island. The nest is very simple, scarcely more than a slightly hollowed platform composed



7. RED-FOOTED BOOBY, *SULA PISCATOR*, ON NEST

W. K. F.

of twigs and sticks, placed on the top of bushes, which cover large areas on the island. The birds place a few fresh leaves about the newly laid eggs. The old birds take turns in brooding, and occasionally one is seen perched on the side of the nest while the other is sitting. Whenever we approached a nest to take a photograph, the occupant would ruffle its feathers as shown in the frontispiece, and if we came too near would take a chance poke at us with its beak, which much resembles an animated marlin spike. The old birds are very handsome, despite their vicious yellow eyes, as the white plumage is set off by bright blue skin about the bill, and by coral-red feet.

Most of the nests contained a single white egg, and we saw only a few downy white young, recently hatched.

We did not observe this species feeding its young, but one old bird, which was

gently poked with a tripod, gladly disgorged squids for our inspection. The red-footed booby also feeds on fish:

The common booby, *Sula sula*, for some reason best known to itself, does not live on Laysan, but we encountered it on Necker, a high, rocky islet, a few hundred miles to the eastward, where also the two foregoing species were met with. In its habits the common booby much resembles *Sula cyanops*, depositing two eggs on a shelf of rock, and rearing only one young. On account of lack of time and proper apparatus we were unable to secure satisfactory photographs.

Stanford University, California.

California Jays and Cats

BY JOSEPH MAILLIARD

WE always have several cats around our home at San Geronimo for the purpose of keeping the house free from rats and mice, which they do most effectively. These cats are daily fed in the back yard and some California jays have discovered that they can get good free lunches there also. Throughout most of the year several are in the habit of coming around at frequent intervals through the day to feed on what remnants may be left.

At nesting time they usually scatter among the brushy hillsides and are not often in evidence, but this season apparently one pair has remained at the house, and these two birds have become highly educated. Not being content with remnants alone they dodge around among the cats for better picking, and even resort to strategy to obtain particular bits of food that the animals are intent upon. However, the cats themselves have also grown wise in their own generation and it is seldom that a jay can make a cat leave its own particular tid-bit. Each has the measure of the other, and while a cat is watching, it is rarely that a jay approaches within reach of its business end, though it will do all it can to make the cat jump at it, or at least turn away. Grimalkin has learned to keep her tail well curled up when feeding, as a favorite trick of the jay is to give a vigorous peck at any extended tail and, when the cat turns to retaliate, to jump for the prize and make off with shrieks of exultation. These birds are not afraid of any of us within reasonable distance, though keeping a weather eye open for too close an approach. None of these actions are remarkable when one considers that it is the result of a course of education that has been going for some time that has produced them, but what does seem peculiar is that this particular pair of jays delight in wantonly teasing the cats in a most persistent manner. To find a cat napping, with its tail partially extended is absolute joy to one of these birds, which will approach cautiously from the rear, cock its head on one side and eye that tail until it can no longer resist the temptation, and, finally after hopping about a few times most carefully and noiselessly, Mr. (or Mrs.) Jay will give the poor tail a vicious peck and then fly, screeching with joy, to the nearest bush.

Watching one of these demonstrations one evening made me think of writing these notes. A large black cat was asleep on the edge of the roadway back of the house and as I was sitting on the porch about twenty yards away, one of the jays hopped down from a bush and approached the animal, whose tail was drawn in

most carefully close to its body. The bird hopped about from one side to the other, getting within eight or ten inches of the cat at times, but either seemed afraid to peck at quite such close range or else hoped to disturb the animal enough to cause it to switch its tail back a little. After trying these tactics for a while the jay flew back to the bush, but four times in perhaps ten minutes it hopped down again and went through the same performance. Finally it hopped to about six inches from the after end of the cat and screeched with all its might. One would naturally suspect that the cat would turn on the bird, but not a bit of it. He simply cocked up his ears a bit, gave a careless glance rearward, snugged up his tail closer yet and went to sleep again. A fifth time the jay renewed the attack, but just at this moment another cat came strolling by and the proposed victim arose and joined it, leaving me to speculate as to how long the bird would have amused himself in this somewhat unusual manner. There was no food nearby and nothing to attract the bird except a strong desire to have some sport at the cat's expense.

One of the queerest pranks of these jays, reported to me by a member of the household, was one I would have given something to have seen. It happens that our cats have the kitten habit to what seems an excessive degree, and, as their numbers must be limited, each batch of kittens is searched for assiduously as soon as their presence is suspected. Not long ago a certain tabby kept disappearing at short intervals for a couple of days and there was every reason to suspect that she had had a relapse of the above little failing. Diligent search failed to reveal the whereabouts of any "nestlings," but one day a faint mewing outside the window attracted the attention of some one in the kitchen when lo and behold there was a jay hauling a very young kitten out from under a young artichoke plant in the garden. The jay lugged the poor kitten along for a little way, seeming to enjoy its feeble wails, and then stopped and screeched in exultation over the find, only to repeat the process again and again. Needless to say the old cat was not present at the moment or things would have been made more lively. The bird certainly did not want to eat the kitten, and the affair seems to have been nothing else than a matter of pure mischief. Since this episode a jay chased a cat clear across the back yard—some fifty or sixty feet—by merely screeching at it and pretending to peck at its tail, the cat never stopping to show fight in any way. Lately nothing exciting seems to have transpired in this happy community and I think Mr. and Mrs. Jay are busy with household cares of their own at present, though I have not been able to locate their domicile.

San Geronimo, Marin Co., California.

The Leconte Thrasher

BY M. FRENCH GILMAN

MY introduction to this interesting bird, *Toxostoma lecontei*, was during the summer of 1882 when his whistling note nearly confirmed my boyish belief in ghosts. In a mesquite and creosote bush thicket at Whitewater ranch was buried a Mexican horsethief who had died with his boots on. Near this thicket I frequently wandered though it was said to be haunted. On several oc-

casions a whistle would send me to the ranch house to see what was wanted, only to find no one had whistled. This puzzled me until I found the noise came from the thicket and of course must be the Mexican ghost. This I believed until a few days later accident revealed to me the real whistler, a Leconte thrasher. The note of the thrasher can be mistaken for that of no other bird. It resembles closely the whistle a man employs on calling a dog, short, with rising inflection at the end. So striking is the resemblance that it is nearly impossible to distinguish one from the other. The calls are uttered at intervals of about a minute, when the bird is in the mood, and are easily imitated. If done accurately the bird will continue answering your call for a long time but care must be taken not to repeat the whistle too rapidly or he sees through the deception. In addition to the call note he has a very attractive song which much resembles that of an uneducated mock-bird, though fuller and richer and pitched in a higher key.

The only drawback to the song is its infrequency even where the birds are most abundant. You may be in their midst all day and see several pairs, but if one song rewards you it may be counted a red-letter day. At least this has been my experience during an intimacy with them of nine years in particular. For some time I doubted the statement made by some writers that this thrasher was a fine singer, but was finally "shown" by the bird himself.

While standing one evening on a high-drifted hill of white sand about two miles west of the rim of ancient Salton sea I heard the sweet strains of a new bird song and began to look for the singer. I expected to find a mocking bird whose individuality had been developed by the desert solitudes and who had learned a new song. On an adjoining sand hill, perched on the exposed tip of a sand buried mesquite I saw the singer—a Leconte thrasher. Perhaps environment enhanced the music for the spot was a most lonesome, God-forsaken one, near an ancient Indian encampment and burial ground, but I have heard no sweeter bird song and the memory still lingers. Since then I have heard the song a few times but not oftener than once or twice a year, though I have been frequently among the birds. Not only do they seldom sing but the whistling call note is not often heard. They appear to be silent, unsociable creatures, never more than a pair being found together, unless a brood of young birds and parents, and then only until the former can shift for themselves.

In no place between Banning and Salton can this thrasher be termed abundant or even fairly common, though in two localities I have seen as many as six pairs in a day and at one place found six nests in one day. It is a bird of the cactus region and is not often found away from it. The wide desert washes, sparsely populated by cholla cactus seem ideal homes for these birds and there they may be found more often than in greener surroundings.

Banning is the western limit of their range and they seem resident wherever found. They are nearly as much ground birds as roadrunners and will not often take to flight unless pressed, then only for a short distance and the running is resumed. A few years ago cowboys in Banning amused themselves by capturing them on horseback. They would run the bird till it took wing, then after it again till its wings failed altogether, and becoming tired of running it would take refuge in a bush or hole and be captured.

The Leconte thrasher may readily be distinguished from the California or the crissal thrasher by its lighter, sandy color, and blackish tip to the tail. The geographical range of the Leconte and crissal thrasher is very similar but the California thrasher does not often intrude upon them or they upon him. In Banning,

however, Leconte and California thrashers overlap while at Palm Springs the three species may be found.

For a nesting site the Leconte usually selects the interior of a thick cholla cactus though I have seen the nests in mesquites and thorn trees. But if cactus be available the nest is placed in nothing else. It is constructed of coarse twigs rather loosely put together and the lining is nearly always made of a woolly desert plant that can be felted or packed closely together. How the builders get the large twigs into the middle of the bushy mass of spines is a puzzle. I have seen nests where to insert the hand it was necessary to cut away several branches of the cactus. The nests are from two to five feet from the ground—average about two and a half feet. They are easily located but not so easily seen. This sounds contradictory, but not so. In riding along the desert, when you see a cholla cactus that appears thicker or denser than usual, go examine it for a Leconte's nest. Perhaps you ride within six feet without seeing any nest, when a gray or drab bird slips quietly from the opposite side and melts away into the sand-gray vegetation. A nearer approach shows a foreign mass in the center of the cactus and on peering into it from directly above three or four eggs may be seen resting on the gray felted lining of the nest. Occasionally the nest is in a more exposed position and may be distinguished at several rods distance. But in looking for nests be sure to investigate all the dense bushy cholla cactuses you see.

The bird is a close sitter and will rarely leave the nest before the intruder approaches within ten feet of the home. Often the hand may come about twenty inches from her before she leaves. She makes no fuss or outcry but silently takes to the brush and is seen no more.

Nest building begins very early in the season. February 17, 1899, is my earliest record, three eggs in set; and the latest, June 4, 1902, two fresh eggs—probably incomplete set. Of the twenty-eight sets I have recorded—to set the Audubonian mind at rest I will state that *recorded* does not mean *taken* in this case—four were in February, as follows: Feb. 17, 1899, Feb. 19, 1894, Feb. 24, 1901, and Feb. 26, 1895. In March I have only two records and in April sixteen, but six of these were of young birds and nearly all the rest date near the first of the month. In May I find five records and in June one. Perhaps more than one brood is raised in a season but I doubt it.

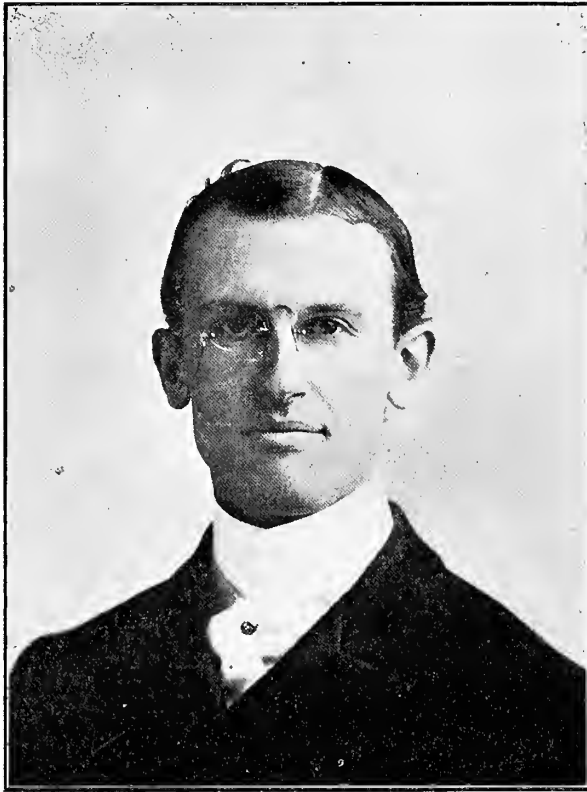
The eggs are light green in color, finely speckled with shades of brown, usually on the large end but often scattered all over the egg. Sometimes the specks are larger, approaching spots or even blotches. The usual set contains three eggs but four are not uncommon and two are sometimes found. Of the records made I find six sets of four eggs, twelve of three, and four of two—complete sets as advanced incubation showed. Other sets were obviously incomplete and sometimes the task of getting into the nest to count the young was too much for even scientific ardor. Of the twenty-eight nests all but four were in the cholla cactus, the others being as follows: one in a mesquite, one in an unidentified desert shrub and two in thorn trees, about as bad as the cholla.

In size the eggs average 1.09 by .75 inches. Some of the extremes measure 1.17 by .77, 1.14 by .74, 1.12 by .78 and 1.00 by .73.

Climatic variations in the seasons appear to have an effect on the numbers of the birds. In seasons of more than normal rainfall they seem more numerous and nest more than in dry seasons. The spring of 1895 was a very favorable one, the desert enjoying heavy spring rains, and consequently an abnormal growth of vegetation, making of the desert wastes a perfect flower garden. The sand hills were covered with desert primroses, acres of country were tinged pink with the sand

verbenas or abronias and other acres were flaming with the yellow annual encelias. Insect life fairly swarmed and birds, especially Leconte thrashers and mocking-birds, were more numerous than before or since. I found eight Leconte's nests on one trip near Palm Springs and saw many of the birds. The next three years were dry on the desert and I saw only six nests, though frequently in their territory.

Banning, California.



MR. HARRY C. OBERHOLSER

Mr. Oberholser is well known to the readers of this magazine, as the author of a valuable series of critical papers on ornithological subjects. His work may be said to have begun with "A Description of Two New Subspecies of the Downy Woodpecker" which appeared in 1895, followed in 1896 by "A Preliminary List of the Birds of Wayne Co., Ohio." Perhaps his best-known revisions are: "A Review of the Wrens of the Genus *Thryomanes*" (1899) and "A Review of the Larks of the Genus *Otocoris*" (1902). Mr. Oberholser is responsible for a long list of papers, which, for the most part, have appeared in *The Auk*, and in the Proceedings of the U. S. National Museum.

About the Utah Gull

BY REV. S. H. GOODWIN

THE return of the gulls brings to mind a curious situation in relation to the specific name of the sacred bird of the Latter Day Saints. If we may judge from the variety of names applied to these birds, which come in such numbers—in the spring—into the valleys of central Utah, more or less of uncertainty exists as to the species.

In an article by H. L. Graham, in *Popular Science Monthly*, Vol. 52, these birds are called the American herring gulls (*Larus argentatus smithsonianus*), a subspecies, by the way, which was eliminated from the Check-List by the Eleventh Supplement. Olive Thorne Miller in "A Bird-Lover in the West," writes interestingly of some of the habits of the Utah gull, which she calls the "Herring Gull" (*L. a. smithsonianus?*)

It is not surprising that those who write bird articles and books of a popular character should sometimes be less than exact when applying the accepted nomenclature to "our little brothers of the air": the object in view may not seem to require accuracy in this respect. The matters which receive the attention of such writers are the habits and haunts and individuality and life of the birds. But that a recognized authority on the subject should, apparently, slip in this matter does afford occasion for surprise.

In that excellent and most serviceable work, "A Handbook of Birds of the Western United States," Vernon Bailey has the following in connection with the Franklin gull (*Larus franklini*): "* * * In Utah their services are so well appreciated that Brigham Young used to offer up prayers that they be sent to destroy the grasshoppers that infested the land. One often sees flocks of fifty to five hundred catching grasshoppers on the wing, wheeling, diving, and rising, till at a distance the white flock suggests a wild flurry of snowflakes." This reference to the local history, and to the habits of the Utah gulls, is correct, but the name is not. The writer, of course, does not know what gulls earned the lasting gratitude of the Mormon people in the pioneer days of '48—the story of which was told by President Smith in the "Deseret Evening News" of February 14, 1903—but, if they were the Franklin, then that species has been replaced by another, for the gulls which now find their way into these valleys by the thousands, are the California gulls (*Larus californicus*).

I have seen thousands upon thousands of these gulls during my six years' residence in the state; I have photographed them repeatedly; I have watched them for hours as they circled about the newly plowed field, or followed close behind the plowman, as blackbirds do in some localities, or sunned themselves on the ridges of the furrows after a hearty meal of worms; I have studied them as they fared up and down the river in search of dead fish and other garbage, or assembled in countless numbers in some retired, quiet slough where they rent the air with their harsh, discordant cries and demoniac laughter, or sailed on graceful wing in rising circles till lost in the deep blue of heaven, and I have yet to see a Franklin gull. As I write, the skin of a beautiful specimen lies before me. The bird was shot out of a flock of fifty or more just like it, and there were hundreds of others of the same species about me at the time—California gulls, every one.

And, not only has no Franklin gull come within range of my observation, but, so far as my knowledge extends, the species has not been taken in Utah. Mr. H. C. Johnson, of American Fork, this state, who has had several interesting arti-

cles in *THE CONDOR*, and who for a decade or more was engaged in making extensive collections of the eggs of Utah birds, tells me that he has not seen a Franklin gull in Utah. Another well informed student of the bird life of this state, Prof. Marcus E. Jones, is quoted by Davie, "Nests and Eggs of North American Birds," on the nesting habits of the California gull, but no reference to him appears in connection with the Franklin gull. Ridgway in "Notes on the Bird Fauna of the Salt Lake Valley," and in "Ornithology of the Fortieth Parallel;" Merriam, "Sixth Annual Report, U. S. Geol. Survey"; Henshaw—quoting Ridgway—in "Annotated List of Utah Birds;" and Cooke in, "Birds of Colorado," all name the Utah gull *Larus californicus*.

It would be of interest to know what data led Prof. Bailey to call this bird, *Larus franklini*.

Provo City, Utah.

The Birds of the John Day Region, Oregon

BY LOYE HOLMES MILLER

THE observations^a here recorded were made during May and June of 1899 and with the collections now in the Biology Department of the University, comprise the work done on the ornithology of the John Day region by the first University of California expedition into that part of the country.

A good general account of the expedition was given before the Science Association of the University by the geologist in charge, Dr. John C. Merriam^b

What need be added to this account will be those points regarding the topography that will bear directly upon the bird life. The locality known as the Cove is that part of the John Day basin about fifteen miles northwest of Dayville, and is some one hundred miles due southeast of The Dalles. Bridge Creek is a tributary entering the John Day, about sixty-five miles from its junction with the Columbia.

The expedition was in the field from May 25 to July 10. A distance of some three hundred miles was covered in the round trip and a range of elevation from the low, hot country on the Columbia to the pine belt in the Blue Mts. Three permanent camps were made: first at the Bridge Creek beds, June 1 to 12; second, at the Cove, Blue Basin, June 19 to 28; third, at Lower Basin in the Cove, June 29 to July 2. Thus there were twenty-five days in which collecting could be done. Half of this time was devoted to biology, making not more than thirteen days for making collections. The collection numbers fifty-four birds and ten mammals with a few reptiles and batrachians.

In his general discussion Dr. Merriam speaks of the desert character of the country and the extreme paucity of living species. The region is indeed most disappointing to the collector in search of existing forms, or to one on mere pleasure bent, yet I think there is not one in the party but considers this chapter in his experience one of the most enjoyable and profitable.

The Bridge Creek Camp was made at Allen's ranch, ten miles up Bear Creek from its junction with the John Day and twelve miles from Mitchell. The valley

^a Published by permission of Professor W. E. Ritter, head of Department of Biology.

^b "An expedition to the John Day Region, Oregon," J. C. Merriam, Proc. Sci. Assoc. Univ. of Calif., Vol. 1, No. 1.

at this point is about one and one-half miles wide, Bridge Creek joining Bear Creek here. The creek runs between perpendicular banks of soft dirt twelve or more feet high in places. For some one hundred yards along the stream extends a narrow copse of scrubby willows entangled with vines. The remainder of the valley floor is covered with the natural growth of sage, three to five feet high. Allen's ranch gives some diversity to the collector by furnishing a half dozen fruit trees, a few poplars, an irrigating ditch with its few yards of willows and sedge, and a twenty acre field of alfalfa hay.

Up the tributary ravines to the east, toward the fossil beds, a few scrubby junipers occur in the valley floor. Above the fossil cliff rise lava terraces to a height of several thousand feet, eight terraces being distinctly visible. On the more gentle slopes between terraces a sparse growth of junipers and some bunch grass is to be found. The entire region, however, that has not been fenced in, is over run and devastated by sheep. A pocket mouse would starve in such a place; lizards are extremely rare, and snakes almost entirely wanting.

At the camp in Turtle Cove, the conditions were much the same. The altitude was slightly greater, there were no willows, but where we camped a small copse of birch and wild gooseberries shaded a small spring which kept the ground moist for a few yards down the ravine. Some distance to the north was a second ravine carrying a small stream bordered by willows for a short distance and a few scrub pines. A mile or more down the ravine and below the cliffs runs the John Day through the treeless sage of the canyon floor.

At the third camp, Lower Basin, the conditions were somewhat improved. The river makes a great bend, broadening its bed and giving room for a number of giant cottonwoods, willow copses, a small marsh and hay fields. From the south wall descends a steep ravine, well wooded with birch and leading up to the pine timber in limited patches in steep notches in the lava wall. The limited extent of the pine growth probably explains the absence of *Eutamias* for which I searched in vain. Here for the first time on the trip, one could really feel that he was not in the desert. Dearly as one may love the open sage stretches of the desert of the west, a bit of pine timber with fir and aspen making a cool twilight in the hollows is a refreshing change at the close of a six weeks trip. Unfortunately we could spend but four days at Lower Basin.

Dendragapus obscurus. Dusky Grouse. A fine cock was taken at the Cove, June 24. Some half dozen were flushed from the junipers and grassy hillsides within several hundred yards, evidently one flock. The food was of green herbs, crop being stuffed with the young leaves and flower buds of a small composite growing on the hill. Mr. Davis later observed the courting dance of the species. A single male strutted with spread tail before a group of four or five females and at intervals of a minute or two emitted a single note much like the *whoo!* of the horned owl but much lower in pitch. I heard this note quite frequently in the region thereabout but took no more specimens. A nest of this bird, containing the shells of the season's eggs, was found at the Cove, June 25. It was merely a shallow excavation under a low sage bush with slight dry grass about. The shells were too scattered to allow an estimate of the number of eggs. Were there two breedings in the season or do the courting dances continue after the first brood is hatched?

Pediocetes p. columbianus. Columbian Sharp-tailed Grouse. A single specimen was seen flying overhead to the sage mesa at Caleb, June 13. The bird was identified by Mr. D., an old hunter in this region. A tuft of the feathers was

picked up in a dust wallow at Cottonwood. The general color was decidedly rusty.

Centrocercus urophasianus. Sage Hen. A single specimen was seen by Dr. Merriam at the Cove and wounded with a revolver but it escaped. All the hunters of the region speak of it as common among the sage.

Zenaidura macroura. Mourning Dove. This form was met with all the way and often served to elaborate the camp menu. It was seen nesting in June in the fossil cliffs at the Cove.

Cathartes aura. Turkey Vulture. Noted from the steamer on the Columbia and in the country just outside The Dalles, May 24.

Falco s. phalæna. Desert Sparrow Hawk. Observed at Bridge Creek, June 6.

Pandion h. carolinensis. Osprey. One of these birds was seen at Sherar's Bridge on the Deschutes River, May 27, but it proved too wary to allow me within gunshot. I have noted this species in southern California on the Santa Ana River some sixty miles from the nearest large body of water, the so-called river being but a few inches deep.

Bubo v. pacificus. Western Horned Owl. This big fellow found shelter in the caverns among the fossil beds, the darkness and seclusion of the deserted place being the delight of such as he. Abundant castings, containing the bones of rodents, were found.

Megascops a. macfarlanei ? The familiar note of a screech owl was heard on the river at Cottonwood, June 17, at the cottonwood timber.

Speotyto c. hypogæa. Burrowing Owl. Observed at Eight Mile Creek, May 25.

Dryobates v. hyloscopus ? A single specimen observed at Lower Basin, June 27.

Asyndesmus torquatus. Lewis Woodpecker. Seen from the train just out of Portland, May 20. Observed on dry sage hillside on Cherry Creek, May 31. Quite abundant on fence posts along Bridge Creek and in scrubby junipers at the base of the hill; evidently breeding in the junipers at the Cove, June 22. This bird was extremely shy at all times. One morning I spent an hour or more at sunrise in trying to stalk them in a small group of junipers at Bridge Creek but they acted as sentinels for each other and could not be approached. I do not understand this extreme shyness as they seem to have no especial enemy aside from the collector and such was surely new to these birds. By stationing H. at one end of the juniper grove and making a drive of the birds one was finally taken. At Antoine on Rock Creek, at a much greater elevation, it was observed making excursions into the air evidently in pursuit of insects; a few circles and then down again to its perch on a dead pine.

Colaptes c. collaris. Red-shafted Flicker. Observed preparing a nest in the side of the fossil cliff at the Cove, June 23. Numerous smaller or larger holes occur in the furrowed deposit often leading into larger caverns within. From one of these I flushed a flicker that acted in a very conscious manner, suggesting a nest at once. I could not climb to the place to make sure of the bird's intentions nor note its work. On the following day, however, I found another hole likewise inaccessible, from which after the stimulus of a few well directed stones, there proceeded the hissing squeak of young flickers, thus proving the flicker to have adapted itself to the treeless condition of the region. The species was quite abundant along the river at Lower Basin.

Ceryle alcyon. Kingfisher. Observed at Eight Mile Creek, May 17, and at Rock Creek, June 14.

Phalænoptilus nuttalli. Poor-will. Several of these birds were heard whistling at dusk about the low hills at Bridge Creek beds, June 6, but none could be taken.

Chordeiles v. henryi. Western Night Hawk. A morning's delay at Mitchell, June 11, gave a very good opportunity to observe a number of these birds as they flew high above the canyon, evidently spending the whole morning at play. They sometimes flew at such a height as to be scarcely visible, all the time uttering their jarring note; suddenly one would drop directly downward a distance of one hundred feet or more, bringing up with a graceful turn and a loud whirring boom. A specimen was taken at the Cove on June 25, where it acted as if nesting.

Stellula calliope. Calliope Hummer. Quite a number of these small hummers were noted in the side canyon above Lower Basin, June 30. Several taken.

Tyrannus tyrannus. Kingbird. First seen at Cottonwood June 17. A few noted at Lower Basin along the river but none could be taken.

Tyrannus verticalis. Western Kingbird. Seen about town at The Dalles, May 22. At the Cove this bird sometimes wakened us at 3 A. M. by its chatter overhead. Noted in pine timber at Spanish Gulch, June 16.

Myiarchus cinerascens. Ash-throated Flycatcher. Observed on the Cherry Creek road May 27; at the Cove on June 27.

Sayornis saya. A nest of young in full plumage was found in a house at Nansene, May 26.

Contopus richardsoni. Western Wood Pewee. Observed over sage plain at Bridge Creek beds on June 3.

Empidonax trailli. Traill Flycatcher. Observed in the willows at Caleb, June 13, though the cherry trees were still in blossom and the willows bare. The note was identical with that of the same form in California.

Pica hudsonia. Magpie. First noted on Eight Mile Creek, May 22, where it was abundant and very shy; peculiar windmill flight and harsh cry. Noted in junipers above the Bridge Creek beds June 5. Numerous at the Cove where a well-fledged youngster was taken June 21.

Cyanocitta s. annectens. Several specimens observed among the pines above Lower Basin. No. 53 of the collection was taken here on June 29.

Corvus americanus. Common Crow. Crows were noted along the Columbia at The Dalles on May 52. Found breeding in pines at the Cove with large young flying June 26.

Cyanocephalus cyanocephalus. Pinyon Jay. Seen first high up among the lava terraces at the Bridge Creek beds in June. It was extremely shy and some hours were spent in trying to stalk it. It flew very high uttering a note which is exactly like that of the crow pitched higher. Specimens were shot at Cherry Creek Hill on the way back July 6; not at all shy.

Molothrus ater. Cowbird. Observed at Bridge Creek, June 3. A male was observed to go through the most grotesque antics in singing; the head was thrown forward to the limit of the neck and a very visible effort brought up a bubbling volley of notes not unlike those of *Scolecophagus*.

Sturnella neglecta. Western Meadowlark. Heard at The Dalles at sunrise May 22, singing a greeting from the sister state across the Columbia. Found at the Bridge Creek beds, not in the valley bottom as might be expected, but far up the sides among the lava terraces.

Icterus bullocki. Bullock Oriole. In full song at The Dalles May 22. Abundant on Bridge Creek. Noted feeding on cicadas at the Cove June 22.

Scolecophagus cyanocephalus. Brewer Blackbird. Cherry Creek Hill, May

30. Common in all kinds of country; seen in flocks even on the dry sage hills. Noted in the pine belt at Spanish Gulch on June 15. Not seen at the Cove.

Hesperiphona v. montana. Western Evening Grosbeak. Cherry Creek Hill, May 30. "The first bird note heard this morning was a peculiar metallic clink much like that of *Guiraca cerulea*. Investigation revealed a fine specimen of *Hesperiphona* in a low juniper near the tent. The bird was not at all shy allowing me to come directly under the tree as he hopped about uttering his peculiar note. A number of small flocks were observed later in the morning. The air was quite crisp and cold and the abundant growth of junipers gave the impression of mountain country proper." On June 6 at Bridge Creek, much to my surprise, a flock of these birds was found among the willows along the stream. They were easily approached, one shot securing two females and a male. Search through the junipers during the rest of our stay here failed to reveal their further occurrence. It was seen in the pine belt at Spanish Gulch on June 15.

Carpodacus m. frontalis. House Finch. Specimen taken at the Cove where it was common in the sage.

Carpodacus p. californicus. Purple Finch. Single specimen in full song taken at the Cove. Observed above the Lower Basin on June 30 in birch timber.

Spinus pinus. Siskin. Noted at Cherry Creek Hill on May 30.

Astragalinus t. salicamans. Goldfinch. A specimen in full plumage taken in willows at Bridge Creek, June 2.

Poœcetes g. confinis. Western Vesper Sparrow. First noted at Thorn Hollow on May 27, singing at intervals during the night, though it was cold and windy. It was easily observed the next morning on the sage hills where it was abundant and easily approached. Observed at the Cove June 24.

Melospiza c. morphna. Rusty Song Sparrow. Common among the willows of Bridge Creek. Specimens taken June 3. Nos. 9, 27, and 30 of the collection.

Junco h. shufeldti ? First noted in pine belt at Spanish Gulch. Later taken from Douglas spruce at the Cove, June 22.

Spizella s. arizonæ. Western Chipping Sparrow. May 17, at Eight Mile Creek. At Spanish Gulch in the pine belt on June 15.

Spizella breweri. Brewer Sparrow. Quite common on Bridge Creek in sage feeding on caterpillars. It had a pleasing little song and was doubtless nesting though long search failed to prove it so. Noted at the Cove on June 23.

Zonotrichia l. gambeli ? Specimens noted at Calab, June 15.

Chondestes g. strigatus. Western Lark Sparrow. Observed at Eight Mile Creek on May 19 and at the Cove June 23.

Zamelodia melanocephala. Black-headed Grosbeak. Took a fine male from the willows on Bridge Creek, June 6. Noticed feeding on cicadas at the Cove, June 22.

Cyanospiza amœna. Lazuli Bunting. Seen first at Eight Mile Creek, May 17. A very abundant form in the sage at Bridge Creek. In full song everywhere and doubtless breeding in the tall sage.

Pipilo m. oregonus. Oregon Towhee. Specimen No. 26 is of this species taken in sage on Bridge Creek June 7. No. 48, at the Cove on June 27.

Oreospiza chlorura. Green-tailed Towhee. First seen at Spanish Gulch, June 15 in pine timber, within 200 feet of the snow. The following day it was heard singing on a hot hillside in typical sage country on Birch Creek.

Piranga ludoviciana. Western Tanager. Quite common at mouth of Bridge Creek on May 31. Later it was taken at the Bridge Creek beds where it was abundant among the junipers and in sage feeding on small caterpillars. It was occasional at the Cove also.

Hirundo erythrogastra. Barn Swallow. Bridge Creek, June 6.

Tachycineta t. lepida. Violet-green Swallow. Observed flying over Bridge Creek on June 6.

Stelgidopteryx serripennis. Rough-winged Swallow. Observed along the stream at Bridge Creek, June 7. Probably nesting in the soft banks.

Ampelis cedrorum. Cedar Bird. Noted among the birches at Lower Basin, June 30, in flocks of eight to ten and very shy.

Vireo g. swainsoni. Western Warbling Vireo. Two taken in full song in willows on Bridge Creek, June 10. A family of large young was noted in birches at Lower Basin, June 28.

Dendroica æstiva. Yellow Warbler. First seen among willows at Eight Mile Creek on May 25. Abundant on Birch Creek and at the Cove.

Dendroica nigrescens. Black-throated Gray Warbler. On June 2, it was found in some numbers among the junipers at foot of Bridge Creek beds. It was extremely shy and no specimen could be obtained.

Dendroica auduboni. Audubon Warbler. A single specimen was observed above the Lower Basin, June 27.

Geothlypis t. occidentalis. Western Yellow-throat. First noted on Eight Mile Creek on May 25. Abundant also on Bridge Creek in June.

Geothlypis tolmiei. Tolmie Warbler. A single specimen was taken in a birch tree at the Cove, June 25. Several were taken in willows at Lower Basin July, 1.

Icteria v. longicauda. Long-tailed Chat. Quite common in willows on Bridge Creek, June 2.

Wilsonia p. pileolata. Pileolated Warbler. A female was taken feeding in willows on Bridge Creek, June 10.

Setophaga ruticilla. American Redstart. A single male was taken in full song among the willows on river at Lower Basin, July 1. The plumage however was quite immature. The specimen is No. 53 of the collection.

Oroscoptes montanus. Sage Thrasher. First noted at Thorn Hollow on May 27. I consider this bird the finest of the songsters next to the mocking bird. The pureness of his notes equals those of the mocker but the range is not so great. He has the charm of originality however. A peculiar trick of the bird was observed at sunrise one morning on a flower-covered hilltop. One was seen to start upward flying in small, irregular circles until it disappeared directly overhead.

Salpinctes obsoletus. Rock Wren. High up among the lava terraces of Bridge Creek, I found this species among the junipers, not entirely confined to the rocks but frequently perched high on a dead juniper, singing a quite varied song involving several musical intervals, the character still *Salpinctes* however. June 4.

Troglodytes a. parkmani. Western House Wren. A single specimen was observed in the side canyon above the Lower Basin, June 30.

Catherpes m. conspersus. Canyon Wren. First seen, May 27, at Sherar's Bridge. On June 5 it was found among the lava terraces on Bridge Creek in full song and among the beds at the Cove on June 22.

Parus gambeli. Mountain Chickadee. June 15, seen and heard singing among the pines and Douglas spruce at Spanish Gulch. The song is a beautiful, clear whistle of two long notes—A" and G," the G" tone held slightly the longer. On June 27, it was found not at all rare among the willows and cottonwoods along the river at Lower Basin.

Regulus calendula. Ruby-crowned Kinglet. Observed among leafless willows at Caleb on June 13.

Hyalocichla ustulata. Russet-backed Thrush. The song of this bird was heard among the leafless willows at Caleb, June 13, at dusk which is the favorite hour for its concerts. An hour was spent in vain effort to stalk this wary fellow in order to make the identification absolute. The failure was most unfortunate as the song and call note were both slightly different from that of this species in Berkeley.

Merula m. propinqua. Western Robin. This was one of the first species noted May 24. In full song at The Dalles about the yards in town. May 25, Cherry Creek hill—"Robins have been common all along the road; they are probably nesting already." May 30, Bridge Creek—"A nest was observed in low bush by roadside; contained four large young. It was so near the road as to enable one to look into it easily from the saddle without turning from his course." These birds were quite plentiful in the sage of Bridge Creek, where they fed upon a small caterpillar found there. We observed them at all points on the road and in all sorts of country up to the pine belt at Spanish Gulch. At the Cove they were observed feeding on cicadas on dry hillsides.

Sialia m. occidentalis. Western Bluebird. This species was abundant in flocks with large young among the pines above the Lower Basin. June 27.

Sialia arctica. Mountain Bluebird. A single specimen was observed at Currant Creek hill on May 29, and one other at base of the fossil beds on Bridge Creek, June 3.

Berkeley, California.

Nesting Habits of the Caracara

ADOLPH E. SCHUTZE

THE caracara, (*Polyborus cheriway*) is an abundant bird throughout southeast Texas. Since it came under my observation, about five years ago, I have paid considerable attention to its nesting habits and food. It has been my good fortune in recent years annually to make extensive trips into the surrounding country, namely Travis, Bastrop and Caldwell counties, thus enabling me to become quite familiar with the general habits of the bird. This peculiar creature possesses both the characteristics of a hawk and vulture, but is more frequently seen in company with the latter. Its flight resembles that of neither hawk nor vulture, but is very straight and rapid and I am inclined to believe that it will often go many miles for its food. On a hot summer's day it can sometimes be seen circling high overhead after the manner of a hawk.

In central Texas it is also abundant, and is met with everywhere in open country, especially in chaparral and mesquite regions where food abounds and is easy to secure. The prairies which comprise vast areas of this great state are covered in most parts by a dwarf growth of mesquite, and distributed among these are elm, oak and hackberry trees of normal height, which afford good nesting places. I have found them breeding in heavy timbered creek bottoms, but on few occasions.

Its food consists of a vast amount of carrion, lizards, small snakes, various rodents and the cotton-tail rabbit. This rabbit is abundant throughout the chaparral regions of the state, and I can safely say that it forms about one-half the diet of this bird. Occasionally the remains of a rabbit is found in the bird's nest. I have often seen it in company with vultures while feeding on carrion, and on sever-

al occasions it has been seen feeding on the refuse that had been thrown out of the slaughter houses on the outskirts of the city. It does not seem to fear the presence of man and not infrequently are nests found in close vicinity of country dwellings.

Most of my observations were made in Caldwell county which consists principally of rolling prairie, intersected by numerous small streams, the banks of which are sparingly fringed with elm and hackberry trees. Here the birds may be found throughout the year. The birds are usually in pairs the year round, but sometimes during the winter months they can be seen in flocks of four and five. Nesting begins in February and early March, at which time both birds can be seen flying about together in search of a nesting site. Two and sometimes three broods are reared in a season, as nesting begins very early. The earliest recorded date that I have, is March 1, when I took a beautiful set of three eggs from a new nest in Caldwell county. The nest was composed entirely of broom-weeds without a lining and was constructed during the months of December, January and the first few days of February. The eggs were slightly incubated when found, and I am sure



COLLECTING EGGS OF THE CARACARA

I could have procured them a week earlier had I been aware of the fact. This would unquestionably have made the earliest nesting date for this section of the state. A nest of former years to which is added a few straws, is usually selected in which to rear their young and seldom is a new nest found. I think the greater number of the new nests are built by birds of the previous year, they being unable to procure old ones. Some, however, are built by birds that are molested too often and finally give up their old homes in despair. Some birds become so attached to their nests that they return each year, even after having been robbed time and again. New material is added yearly to the old nest, so that in course of time it becomes a huge and massive structure, and when conspicuously situated, which is generally the case, can be seen at a great distance.

One particular nest, that I now call to mind was found about six years ago in Caldwell county in a small elm on the crest of a high hill. When first found the nest was fully three feet in height and two and one-half feet in breadth. For some

unknown cause it was deserted and being exposed to the wind and weather soon decreased in size until now it is a mere platform of sticks, but still a relic of former days. Probably some day it will be repaired and made use of.

The nest is usually placed in the upright branches of an elm or oak, eight to fifty feet above the ground. Of the thirty-five nests that I have so far found, two-thirds are yearly reoccupied, but whether by the same pair of birds, I am unable to say. The birds are always careful in selecting a position where they are enabled to view the entire surrounding country with ease. When an intruder approaches, the parent immediately leaves without the slightest noise and is lost to view for a time. After a short while it returns with its mate and both alight on some nearby tree and watch the proceedings with much interest. Sometimes they will even alight on the same tree that contains the nest, while the intruder is examining the same. Again I have seen both birds flying about overhead, constantly uttering a loud guttural sound. Of the thirty-five nests that have come under my observation, thirty were composed solely of broomweed and without a lining, two were built of broomweeds and small briars, while the remaining three were built of various substances, such as corn husks, small sticks, broomweed, mesquite twigs and the like. Sometimes old nests of hawks are appropriated, and to these are added a few broomstraws, or weeds. Two and three eggs are laid, two being the usual complement. Surely few hawk, eagle, or vulture eggs present a greater diversity in coloration. The usual color is a light brown, which is marbled and clouded with various shades of darker brown. Some eggs are solid brown, some have a light chocolate ground, spotted and clouded with various shades of darker brown, and again I have seen eggs of a rich reddish brown. If washed in water when fresh they will readily lose color, and become a dirty white. On one occasion I found a nest containing two eggs of this species which were almost white. They had been exposed to much rain for the entire coloring was washed off. Incubation was well advanced and on this account I was unable to preserve them. Three eggs in my cabinet collected March 1, 1902, have a light brown ground color spotted, streaked and clouded with a darker shade of brown. They measure respectively 2.19 by 1.74; 2.23 by 1.82; 2.12 by 1.82 inches. The picture accompanying this article was taken by the writer in April 1902 in Caldwell county. The nest contained one fresh egg, which was left undisturbed and after two days a full set was secured.

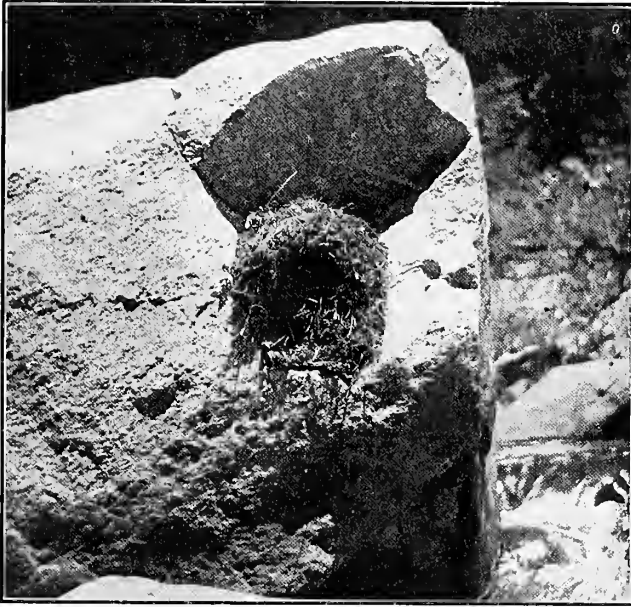
These birds do not thrive in captivity. I saw two in San Pedro Park, in San Antonio, last summer. They were in a very small cage and though full grown were much smaller than the birds which are at liberty. They were very active, and watched with much interest the people that were passing by.

FROM FIELD AND STUDY

Two Unusual Birds at Stanford University, Cal.—At the May meeting of the Cooper Club, Prof. John O. Snyder of Stanford University, exhibited a specimen and nest and eggs of the Sierra junco (*Junco h. thurberi*) which he had secured in the Stanford Arboretum. The nest was built between the loose bark and the trunk of an eucalyptus, several feet from the ground, a quite unusual position for a junco. One would naturally expect to find the Point Pinos junco, if any; but this specimen, compared with the type of the latter species turns out to be the inland bird. The other junco of the pair, or perhaps there is a little colony, was seen by the writer all through the spring, and as late as July 11, when it was observed perched head downward, drinking from a hydrant.

In the last issue of this magazine a little note was inserted stating that an olive-sided flycatcher (*Contopus borealis*) had taken up residence in the Stanford Arboretum. This bird, or

some other individual, was last seen June 26, perched on the topmost branch of a tall eucalyptus, where its loud call rang forth as in the coniferous forests of its usual summer home, the Transition and Canadian zones.—WALTER K. FISHER.



A WATER OUSEL'S NEST

A Water Ouzel's Nest.—The accompanying photograph of a water ouzel's nest (*Cinclus mexicanus*) was secured on the San Lorenzo, in Santa Cruz County, California. The nest was beautifully situated on the down-stream side of a big rock in the middle of rapids, where the water was boiling all around it. Although taken in 1897, the nest was so round and compactly built that it is in perfect shape to-day, and the moss has a green, fresh look. The inside of the nest is lined with twigs, strips of redwood bark, and bay leaves.—GEORGE S. TOWNE, *Palo Alto, Cal.*

Bell Sparrow (*Amphispiza belli*) in Santa Clara Co., California—On March 31, 1904, I took two specimens of Bell sparrow near the San Antonio Creek (locally known as Adobe Creek) in the foothills of Black Mountain (Monte Bello)

Santa Clara Co., California. At least two others of the same species were seen, and since the specimens secured proved to be male and female adults, with sex organs well developed and enlarged, it is very probable that the species breeds here.—HUBERT O. JENKINS, *Stanford Univ., Cal.*

Nesting Habits of the Rock Wren.—Noting Mrs. Bailey's most interesting article on the rock wren (*Salpinctes obsoletus*) permit me herewith to quote a few lines on this interesting wren from my note book.

During the years of 1898 and 1899, while sojourning in San Antonio, Texas, it was my good fortune to run across a colony of eight or ten pairs of rock wrens. Near the head of the San Antonio River in the northern suburbs of the city where the land is broken, of a limestone formation with almost no surface soil and covered with prickly pear and laurel, is quite an extensive lime-stone quarry. This, with its immediate environs, is the home of the colony of rock wrens, and was where I located and examined thirteen nests as follows: *Nest 1*, April 2, 1898; building in crevice in wall of quarry 20 feet up, the male assisting in its construction. This nest now before me, and which is typical of this colony, is composed outwardly of weed stalks and dead grasses with a heavy layer of fine rootlets, the inner nest being fairly well cupped and heavily lined with grayish goat hair. Inside diameter of this nest is $2\frac{3}{4}$ inches with a depth of $1\frac{1}{8}$ inches, the whole being placed in and upon a cup-shaped foundation or rim composed of numerous and various sized flat stones deposited by the birds, the interstices and uneven places on bottom of crevice being filled with these stones, forming a walk to the nest which was placed 8 inches in from face of wall. There must have been at least a half pint of these lime-stone chips, and it seems incredible how so small a bird with so slender a bill can carry stones of such a size and weight to such a height. Measurements of three of the larger stones before me are as follows: $2\frac{1}{8}$ by $\frac{3}{4}$ by $\frac{1}{4}$; $1\frac{1}{2}$ by 1 by $\frac{3}{8}$; $1\frac{3}{4}$ by $\frac{3}{4}$ by $3-16$. In weight they each run something over one-fourth of an ounce. On April 15th this nest contained 6 eggs.

Nest 2, April 2, building. This nest was placed in a small cavity in a pile of loose refuse rock and debris 3 feet up, the material being practically identical with that of No. 1. This nest rested in a cup-shaped foundation of flat stones. No signs of a walk existed, possibly owing to lack of space. On April 26th nest contained 6 newly hatched young. During incubation the male was quite wary but very attentive to his mate, taking her all the most choice morsels in the way of small beetles. On April 7th I was rewarded by locating three nests. *Nest 3* con-

tained 5 young about 5 days old, material and location practically the same as No. 1; nest foundation of stones and walk of stones extending about 10 inches. *Nest 4* contained 5 young 10 or 12 days old; nest placed in small cavity formed by root of tree 10 feet up in wall of quarry. Nest was typical, placed in shallow cup-shaped foundation of stones; no room in cavity for walk. *Nest 5* contained 6 young 10 or 12 days old. Nest was placed in cavity under boulders on bottom of quarry and had the usual stone foundation; two matches, a few splinters of wood, lining of black goat hair and considerable wool, especially round the rim; no sign of a walk. *Nest 6* contained 3 eggs; typical; location practically same as No. 5; cup-shaped foundation of rocks; no sign of a walk. *Nest 7*, April 8, 1899, containing 6 young, one week old; nest situated in crevice in wall of quarry; typical stone foundation and 9 inches of walk. *Nest 8*, April 11, containing 5 young a few days old. Nest typical, placed in cavity in wall of stone powder magazine; usual stone foundation; slight walk of stones. *Nest 9*, April 15, containing 5 fresh eggs; nest typical; location, foundation and walk same as No. 1. *Nest 10*, April 29; in a cavity formed by large rocks on bottom of quarry; nest typical, usual cup-shaped stone foundation, no sign of walk; 6 eggs. *Nest 11*, May 18, containing 7 eggs; nest, location and foundation same as No. 10; no sign of stone walk. *Nest 12*, June 3, containing 7 eggs; nest typical, placed in crevice in wall of quarry 10 feet up; usual foundation of stones, also 7 inch walk; evidently second nest of pair of birds, whose nest was located on April 8th. *Nest 13*, June 3, containing 7 eggs. This nest was typical, but the location was quite unusual, the structure being placed in a small waste or outlet pipe in an old open cistern. This pipe was 4 inches in diameter and about 3 feet from top of cistern. This nest had quite an extensive walk and stone foundation consisting of at least a pint of stones.

Summing up the above it will be seen that where the nests were located at the bottom of the quarry there was no attempt at building a walk, but when the nest was situated in a crevice the walk was invariably there provided. Of course there was room for it. In every case, however, the cup or saucer-shaped foundation was there. Query: could not this walk have been built to keep the young birds from falling into the crevices or getting their feet caught in same? I find that as a rule two broods are raised in a season and that their food consists to a large extent of a species of beetle which they find in the crevices of the rocks.

One interesting trait and one which I should judge to be purely local is their habit of dodging under a boulder or overhanging rock upon the loud report of a blast, and remaining there until the shower of falling rock is over. They are then among the first upon the ground, searching fearlessly among the Mexican quarrymen for such beetles as may have become exposed by the blast. They seem perfectly fearless of the quarrymen and the heavy cannonading, but on the appearance of a stranger they become quite perturbed and suspicious and very cautious in going to their nests. It was some days or even weeks before they permitted any familiarity whatever on my part. How they stand the terrific heat and glare in that quarry during July and August is a mystery to me.—PHILO W. SMITH, JR., *St. Louis, Mo.*

Melanism in *Buteo borealis calurus*.—While overhauling a number of *Buteo* skins a few months ago there was one which did not answer the tag *B. swainsoni*. On comparing it with some dark phases of *Buteo borealis calurus* of the last month's collecting I found this particular skin to be a beautiful melanistic phase of *calurus*. It is a female, number 1446, coll. W. O. E., Haywards, Cal., August 20, 1897. The general color of the plumage is a blackish brown over the whole body, with a purplish reflection on the back and wings; the edges of the feathers of the breast, belly and thighs washed with chestnut brown; thighs also sparsely mottled with the same color. The measurements are: length 22 inches, wing 17 inches; while another female taken December 18, 1903, measures $23\frac{3}{4}$ inches in length, wing $18\frac{1}{4}$ inches. This specimen compares more with some dark phases of *B. swainsoni*. The rufous tail is black-banded, twice as deep as in a typical red-tail, and is edged with same at end. The head and throat are rufous black, fore-breast more grayish, belly brownish black, thighs rufous, barred with black, wings dusky brown and black, edged and slightly barred with grayish white; upper and under tail-coverts similar to thighs. A slight purplish reflection is seen over the wings, but not so much as on the first bird described.

In a large series of these hawks there are rarely two out of five but show a difference in the plumage color. Seven out of twelve before me run either to a light or dark phase; some with grayish backs, others with dark brownish black or chestnut. The throat, breast and belly run from ochraceous gray to reddish brown, chestnut and yellowish white.—W. OTTO EMERSON, *Haywards, Cal.*

A Few Notes on Bird Life at Three Rivers, Tulare Co., Cal.—The varied thrushes have been here in numbers, and the plain titmouse (*Baeolophus inornatus*) is giving out its pleasant call: *wheetit, wheetit, wheetit*. Band-tailed pigeons (*Columba fasciata*) have been and

are plentiful here. They have taken their winter food from the live oak of the foothills (*Quercus wislizeni*); now they feed largely from manzanita buds. On February 10, I heard a noise which sounded like *coo, coo, coo*, and after a search I found a road-runner perched up in the branches of an oak tree. I recognized it as the author of the sounds I had heard. I suppose this is one of its love songs.

One of my young friends informed me that he saw a bird sitting in a nest at the eave of his house on the 23d of December, 1901. January 13 he looked in the nest and found four eggs nearly ready to hatch. Two weeks later they were hatched and gone. He informs me also that this same nest contained three broods of five birds each last summer. I think the bird is the Say phoebe (*Sayornis saya*). A friend of mine saved a nest of a hummingbird, probably *Calypte anna*, which had been built upon a small loop of rope, which was attached to one of the rafters of a shed. The nest was made of spiders' webs, and two young were hatched August 2, 1901, but they died. My friend at the same ranch reported finding a complete set of dove's eggs (*Zenaidura macroura*) February 27, 1902.—W. F. DEAN, *Three Rivers, Cal.*

NOTES AND NEWS

We have just received a letter from Mr. Grinnell dated Mt. Pinos, June 26. He says: "Here I am, on the slopes of Mt. Pinos, a state of existence which I have longed for, for many moons. And I am not disappointed either, in the wildness of it, nor in the animals so far secured, though there is a lamentable lack of water. We have been just ten days from Pasadena, loitering in Antelope Valley and Tejon Pass en route, To-day I climbed to the top of the peak and had a fine view of the country all about, Tulare Lake, Sierra Nevada, Mojave Desert and the ocean. We are camped at 6500 feet." We shall leave the "animals" for Mr. Grinnell to detail later, as they are an interesting lot.

Mr. Edmund Heller writes from Juchitan, Oaxaca, Mexico, under date of April 23d: "Since writing you before, our instructions have been modified and we are now collecting both mammals and birds for the department of taxidermy. For the last month we have been at work on the dry side of the isthmus, in a country resembling in fauna and flora the deserts of California and Arizona." Mr. Heller is making natural history collections for the Field-Columbian Museum.

Mr. J. O. Snyder has left for an extensive fishing trip through the Klamath and Goose Lake Basins of southern Oregon.

The last of May we received a notice of the Spring Outing Meeting of the Southern Division, but have since heard nothing of the meeting itself. By the way, is the Secretary of the Southern Division on a protracted vacation? We have not received official minutes since March 1903.

We have heard unofficially that an Audubon Society has been organized in Pasadena, but have received no word from headquarters. Mr. Scott Way is secretary.

Mr. Hubert O. Jenkins has left for Mt. Whitney, to be gone the rest of the summer.

About the middle of the summer Mr. Malcolm P. Anderson expects to sail for China, where he will be engaged, for the next three years, in collecting mammals for the British Museum.

Mr. R. B. Moran is camping in Santa Barbara county.

Mr. W. W. Price is located at his summer camp, Glen Alpine, Tallac, California.

Mr. P. M. Silloway is in the vicinity of Bigfork, Montana, for the summer.

The Thirteenth Supplement to the American Ornithologists' Union Check-list of North American Birds, issued with the July *Auk* contains among others the following important changes and additions. *Dendragapus obscurus sierræ* Chapman is added; *Nyctala Brehm* becomes *Cryptoglaux* Richmond; *Sayornis nigricans semiatra* dropped; *Corvus americanus* becomes *C. brachyrhynchus*; *Scolecophagus* Swainson, preoccupied, becomes *Euphagus* Cassin; *Astragalinus psaltria hesperophilus* Oberholser is added (SW. U. S.); *Pipilo fuscus carolæ* is dropped; *Lanius ludovicianus mearnsi* Ridgway (San Clemente Id.) is added; *Budytes flavus atascensis* Ridgway is added; *Heleodytes brunneicapillus* is replaced by *H. b. couesi*; *Bæolophus inornatus restrictus* Ridgway (vicinity of San Francisco Bay) is added; *Phylloscopus Meyer* becomes *Acanthopneuste* Blasius; *Dendroica æstiva brewsteri*, and *Heleodytes brunneicapillus anthonyi* are rejected. *Passerulus rostratus halophilus* is equivalent to *P. r. guttatus* in summer plumage. The Ptiliognathinæ, Miminæ, Sittinæ and Chamæinæ are raised to family rank.

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Minutes of Club Meetings

NORTHERN DIVISION

MARCH.—The club met March 5, at the residence of Miss Sophie Englehardt, Oakland, one honorary member, Mr. W. E. Bryant, nineteen active members, and twelve visitors being present. The President, Mr. H. R. Taylor, was in the chair. The following were elected to active membership: P. B. Peabody, J. L. Childs, Vernon Bailey, G. W. Luce, and Miss Anna M. Wiebalk. There were ten applications for membership: C. W. Richmond, Washington, D. C., Ruthven Deane, Chicago, Ill., O. Widmann, St. Louis, Mo., William Brewster, Cambridge, Mass., and L. B. Bishop, New Haven, Conn., being proposed by Dr. A. K. Fisher; A. H. Keeney, Santa Barbara, and Jonathan Dwight, New York, by Mr. Grinnell; E. S. Cheney, Oakland, Cal., by Mr. Emerson; J. H. Flanagan, Providence, R. I., and Lieut. W. B. Eastman, San Francisco, by Chas. S. Thompson. A communication was read, in which Mr. Grinnell stated that the Club was in good condition financially, and on motion Mr. Grinnell was instructed to prepare a general statement of the financial affairs of the Club. Mr. W. Lee Chambers was appointed, to inspect the Club books.

The business having been disposed of, the program was next taken up, Chas. S. Thompson reading a paper on "A Visit to a Yellow-billed Magpie Colony," which was discussed by the members, R. B. Moran and Mr. Kaeding making remarks. Mr. F. E. Newberry read an interesting paper on "The Osprey in Rhode Island," relating his experiences with the birds during several years. He showed a fine series of photographs of osprey's nests, as well as several sets of eggs which were much admired.

The meeting then adjourned to meet at the residence of Professor O. P. Jenkins, at Stanford University, May 7, 1904.

CHAS. S. THOMPSON, Secretary.

MAY.—The Club met May 7, at the residence of Prof. O. P. Jenkins, at Stanford University, sixteen active members and ten visitors being present. President H. R. Taylor was in the chair. Ten active members were elected as follows: Jonathan Dwight, Jr., A. H. Keeney, L. B. Bishop, William Brewster, O. Widmann, Ruthven Deane, C. W. Richmond, Lieut. W. B. Eastman, J. H. Flanagan, and E. S. Cheney. There were three applications for membership. L. Stejneger, Washington, D. C., and S. F. Rathbun, Seattle, being proposed by Dr. A. K. Fisher, and Walter Deane, Cambridge, Mass., by Joseph Grinnell.

The program was now taken up, Mr. N. Carpenter reading an interesting paper entitled "Bird Life on the San Luis Rey." Mr. Snyder next spoke on "The Nesting of the Sierra Junco at Stanford University." He exhibited a nest and three eggs of Sierra junco taken at Stanford University, and the skin of the female parent. Mr. Snyder's talk was discussed at some length inasmuch as the Sierra junco has been found "breeding out of its range, at an unusual time and in an unusual place." Mr. Thompson read an article from the "Pennsylvania Register" for 1831 (cf. p. 345) in which the nesting habits of the cliff swallow were described. This paper was also discussed, Mr. Taylor pointing out that it was probably the first published observation on the cliff swallow's nesting on barns, showing that they must have changed their nesting places in that particular locality at about this time. The meeting then adjourned to meet at the residence of H. R. Taylor, Alameda, Cal., July 9, 1904.

CHAS. S. THOMPSON, Secretary.

The publication of a Catalogue, or manual, giving exchange valuations of nests and eggs, while not strictly speaking, a contribution to scientific knowledge, perhaps is not without its interest and value, particularly if the scale of relative valuations be worked out with careful consideration of the abundance or rarity of a given species, the question of a restricted range, demand, supply, European importations, recent explorations, or the contrary, and the numerous circumstances which must, as far as is possible, be reviewed in arriving at a judgment somewhere nearly correct. In this country where private collections are almost a necessity in many instances for advanced students, a "Catalogue" such as the one in contemplation, while it may always fall short necessarily of perfection, is almost indispensable as a guide in the exchange of specimens; while, in general, the prices indicated in the compendium may be said often to give concretely and concisely a fair idea of the relative abundance of species—at least of such as are readily obtainable. Taylor's Standard American Egg Catalogue is to be issued early in August, with the A. O. U. list to date and prices thoroughly revised with the assistance of prominent Oologists. The active cooperation in this task, which is in no sense a financial enterprise, of all interested, is asked and will be appreciated by

H. R. TAYLOR.

Alameda, Cal., July 5, 1904.

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THE CONDOR

A Magazine of Western
Ornithology



Volume VI

September-October, 1904

Number 5



W.K.F.

COOPER ORNITHOLOGICAL CLUB



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COLONY OF SOOTY TERNS, *Sterna fuliginosa*, LAYSAN ISLAND, MID PACIFIC

Photographed by Walter K. Fisher

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume VI

September-October, 1904

Number 5

Some New Facts About the Migration of Birds ^a

BY WELLS W. COOKE

BIOLOGICAL SURVEY, U. S. DEPARTMENT OF AGRICULTURE

WHAT becomes of our summer birds? Where do they spend the winter? By what routes do they travel to their destinations? How do they find their way? For many centuries these and similar questions have puzzled the brain of man. In default of exact knowledge, fanciful theories have been advanced, such as that swallows hibernate in the mud, and that small birds cross the Mediterranean as passengers on the backs of cranes. Such notions have held their own well into modern times. Scarcely a hundred years have elapsed since systematic knowledge on the subject began to accumulate, and only in the last half century has there resulted any noteworthy progress toward a solution of the questions of migration.

For nearly twenty years the Biological Survey has been accumulating data on the migration of birds. Its own field naturalists, whose visits have extended over the North American Continent from Guatemala to the Arctic Circle, have furnished voluminous notes, besides which the assistance of ornithologists throughout the country has been enlisted, so that reports are received in the spring and fall of each year from hundreds of observers. These reports give, for each species, the date when the bird was first seen, when it became common, and when it disappeared. Light-house keepers also have supplied valuable information concerning the destruction of birds at their lights. The facts thus gathered

^a From Yearbook of Department of Agriculture for 1903. This article is of such general interest and contains so much new information, that it is here reprinted, with little alteration, for the benefit of readers of THE CONDOR, and with the consent of Prof. Cooke and the Biological Survey.—ED.

from these various sources form the largest amount of material on bird migration ever collected in this country, and permit broader and safer generalizations than have heretofore been possible.

CAUSES OF MIGRATION.

For more than two thousand years the phenomena of bird migration have been noted; but while the extent and course of the routes traversed have of late become better known, no conclusive answer has been found to the question, why do birds migrate? Some dismiss the subject with the statement that fall migration is caused by failure of the food supply, spring migration by love of home. All are familiar with the rush of waterfowl northward so early that they are often forced by storms to retrace their flight; and all know that robins, bluebirds, and swallows, following closely in the rear, sometimes lose hundreds out of their flocks by cold and starvation. If strong home love causes these birds thus to hazard their lives, why do they desert their home at the earliest possible moment; and if fall migration is caused by lack of food, why does it commence when food is most abundant? Data recently collected at the Florida light-houses by the Biological Survey show that southward migration begins at least by the 10th, and probably by the 1st of July, insect-eating birds departing when their food supplies are most plentiful, and seed eaters just before the heyday of harvest.

The broad statement can be made that the beginnings of migration ages ago were intimately connected with periodic changes in the food supply, but this motive is at present so intermingled with others unknown, or but imperfectly known, that migration movements seem now to bear little relation to the abundance or absence of food.

HOW DO BIRDS FIND THEIR WAY?

How do birds find their way over the hundreds or thousands of miles between the winter and summer homes? Among day migrants sight is probably the principal guide, and it is noticeable that these seldom make the long single flight so common with night migrants. Sight undoubtedly plays a part in guiding the night journeys also; on clear nights, especially when the moon shines brightly, migrating birds fly high, and the ear can scarcely distinguish their faint twitterings; if clouds overspread the heavens, the passing flocks sink their course nearer to the earth, and their notes are much more distinctly heard; and on very dark nights one may even hear the flutter of vibrant wings but a few feet overhead. So far as known, birds never intentionally migrate above the clouds, and when suddenly formed vapor cuts them off from sight of the earth, they lower their flight until the friendly landscape is again visible. Nevertheless, something besides sight guides these travelers in the upper air. In Alaska a few years ago members of the Biological Survey on the Harriman expedition went by steamer from the island of Unalaska to Bogoslof Island, a distance of about sixty miles. A dense fog had shut out every object beyond a hundred yards. When the steamer was half way across, flocks of murre, returning to Bogoslof after long quests for food, began to break through the fog wall astern, fly parallel with the vessel, and disappear in the mists ahead. By chart and compass the ship was heading straight for the island; but its course was no more exact than that taken by the birds. The power which carried them unerringly home over the ocean wastes, whatever its nature, may be called a sense of direction. It is probable that this faculty is exercised during migration.

Reports from light-houses in southern Florida show that birds leave Cuba on

cloudy nights when they can not possibly see the Florida shores, and safely reach their destination, provided no change occurs in the weather. But if meantime the wind changes or a storm arises to throw them out of their reckoning, they become bewildered, lose their way, and fly toward the light-house beacon. Unless killed by striking the lantern, they hover near or alight on the balcony, to continue their flight when morning breaks, or, the storm ceasing, a clear sky allows them once more to determine the proper course.

Birds flying over the Gulf of Mexico to Louisiana, even if they ascended to the height of five miles, would still be unable to see a third of the way across. Nevertheless this trip is successfully made twice each year by countless thousands of the warblers of the Mississippi Valley.

A favorite belief of many American ornithologists is that coast lines, mountain chains, and especially the courses of the larger rivers and their tributaries, form well-marked highways along which birds return to previous nesting sites. According to this theory a bird breeding in northern Indiana would in its fall migration pass down its own little rivulet to the nearest creek, along this to the Wabash River, thence to the Ohio, and finally reaching the Mississippi, would follow its course to the Gulf of Mexico; and would use the same route reversed for the return trip in the spring. The fact is that each county in the Central States contains nesting birds, the different species of which at the beginning of the fall migration scatter toward half the points of the compass. Indeed, it would be safe to say "all the points of the compass," as some young herons preface their regular journey south with a little pleasure trip to the unexplored North.

In the fall thousands of birds reared in Indiana, Illinois and northwestward visit South Carolina and Georgia, cutting directly across the valley of the Ohio and the main chain of the Allegheny Mountains. Palm warblers from New England and others from the Northern Mississippi Valley both pass in the fall through Georgia, but by courses approximately at right angles to each other; and the Connecticut warbler seeks variety by choosing different routes for the spring and fall, each course in part being at right angles to the other. The truth seems to be that birds pay little attention to natural physical highways, except when large bodies of water force them to deviate from the desired course. Probably there are many short zigzags from one favored feeding spot to another, but the general course between the summer and winter homes is as straight as the birds can find without missing the usual stopping places.

CASUALTIES DURING MIGRATION.

Migration is a season full of peril for myriads of winged travelers, especially for those that cross large bodies of water. Some of the shore birds, such as the plover and curlew, which take long ocean voyages can rest on the waves if overtaken by storms, but woe to the luckless warbler whose feathers once become water-soaked!—a grave in the ocean or a burial in the sand of the beach is the inevitable result. Nor are such accidents infrequent. A few years ago on Lake Michigan a storm during spring migration piled many birds along the shore. If such a mortality could occur on a lake less than 100 miles wide, how much greater might it not be during a flight across the Gulf of Mexico. Such a catastrophe was once witnessed from the deck of a vessel 30 miles off the mouth of the Mississippi River. Large numbers of migrating birds, mostly warblers, had accomplished nine-tenths of their long flight and were nearing land when they were caught by a "norther" with which most of them were unable to contend, and falling into the Gulf were drowned by hundreds. During migration, birds are

peculiarly liable to destruction by striking high objects. A new tower in a city kills many before the survivors learn to avoid it. The Washington monument has caused the death of many little migrants; and though the number of its victims has decreased of late years, yet on a single morning in the spring of 1902 nearly 150 lifeless bodies were strewn around its base.

Bright lights attract birds from great distances. While the torch in the Bartholdi Statue of Liberty in New York Harbor was kept lighted, the sacrifice of life it caused was enormous, even reaching a maximum of 700 birds in a month. A flashing light frightens birds away and a red light is avoided by them as if it were a danger signal, but a steady white light looming out of the mist or darkness seems to act like a magnet and draws the wanderers to destruction. Coming from any direction, they veer around to the leeward side, and then, flying against the wind, dash themselves against the pitiless glass.

DISTANCE OF MIGRATION.

The length of the migration journey varies enormously. Some birds do not migrate at all. Many a cardinal, Carolina wren, and bobwhite rounds out its whole contented life within ten miles of its birthplace. Other birds, for instance, the pine warbler and the blackheaded grosbeak, do not venture in winter south of the breeding range, so that with them the fall migration is only a withdrawal from the northern and a concentration in the southern part of the summer home—the warbler in about a fourth and the grosbeak in less than an eighth of the summer area.

The next variation is illustrated by the robin, which occurs as a species in the middle districts of the United States throughout the year, in Canada only in summer, and along the Gulf of Mexico only in winter. Probably no individual robin is a continuous resident in any section; but the robin that nests, let us say, in southern Missouri, will spend the winter near the Gulf, while his hardy Canada-bred cousin will be the winter tenant of the abandoned summer home of the southern bird.

Most migrants entirely change their abode twice a year, and some of them travel immense distances. Of the land birds, the common eastern nighthawk seems to deserve first place among those whose winter homes are widely distant from the breeding grounds. Alaska and Patagonia, separated by 115 degrees of latitude, are the extremes of the summer and winter homes of the bird; and each spring many a nighthawk travels the 5,000 miles that lie between. But some of the shore birds are still more inveterate voyagers. These cover from 6,000 to 8,000 miles each way, and appear to make traveling their chief occupation.

ROUTES OF MIGRATION.

Birds often seem eccentric in choice of route, and many land birds do not take the shortest line. The fifty species from New England that winter in South America, instead of making the direct trip over the Atlantic, involving a flight of 2,000 miles, take a slightly longer route which follows the coast to Florida, and passes thence by island or mainland to South America. What would seem at first sight to be a natural and convenient migratory highway extends from Florida through the Bahamas or Cuba to Haiti, Porto Rico, and the Lesser Antilles, and thence to South America. The bird that travels by this route need never be out of sight of land; resting places may be had at convenient intervals, and the distance is but little longer than the water route. Yet, beyond Cuba, this highway is little used. About twenty-five species continue as far as Porto Rico and re-

main there through the winter. Only adventurers out of some six species gain the South American mainland by completing the island chain. The reason seems not far to seek—scarcity of food. The total area of all the West Indies east of Porto Rico is a little less than that of Rhode Island. Should a small proportion only of the feathered inhabitants of the eastern part of the United States select this route, not even the luxuriant fauna and flora of the Tropics could supply their needs.

A still more direct route, but one requiring longer single flights, stretches from Florida to South America via Cuba and Jamaica. The 150 miles between Florida and Cuba are crossed by tens of thousands of birds of some sixty different species. About half the species take the next flight of ninety miles to the beautiful Jamaican mountains. Here a 500-mile stretch of islandless ocean confronts them, and scarcely a third of their number leave the forest-clad hills for the unseen beyond. Chief among these dauntless voyagers is the bobolink, fresh from despoiling the Carolina rice fields, waxed fat from his gormandizing, and so surcharged with energy that the 500-mile flight to South America on the way to the waving pampas of southern Brazil seems a small hardship. Indeed, many bobolinks appear to scorn the Jamaican resting point and to compass in a single flight the 700 miles from Cuba to South America. With the bobolink is an incongruous company of traveling companions—a vireo, a kingbird, and a night-hawk that summer in Florida; the queer chuck-will's-widow of the Gulf States; the New England cuckoos; the trim Alice thrush from Quebec; the cosmopolitan bank swallow from frozen Labrador, and the black poll warbler from far-off Alaska. But the bobolinks so far outnumber all the rest of the motley crew that the passage across the Caribbean Sea from Cuba to South America may with propriety be called the "bobolink route." Occasionally a mellow-voiced wood thrush joins the assemblage, or a green-gold tanager which will prepare in the winter home its next summer livery of flaming scarlet. But the "bobolink route" as a whole is not popular with other birds, and the many that traverse it are but a fraction of the thousands of North American birds that spend the winter holiday in South America.

The main traveled highway is that which stretches from northwestern Florida across the Gulf, continuing the southwest direction which most of the birds of the Atlantic coast follow in passing to Florida. A larger or smaller proportion of nearly all the species bound for South America take this roundabout course, quite regardless of the 700-mile flight over the Gulf of Mexico. It might seem more natural for the birds to make a leisurely trip along the Florida coast, take a short flight to Cuba, and thence a still shorter one of less than 100 miles to Yucatan—a route only a little longer and with much less of exposure. Indeed, the earlier naturalists, finding the same species both in Florida and in Yucatan, took this probable route for granted, and for years it has been noted in ornithological literature as one of the principal migration highways of North American birds. As a fact it is almost deserted except by a few swallows, some shore birds, and an occasional land bird storm-driven from its intended course, while over the Gulf route, night after night, for nearly eight months in the year, myriads of hardy migrants wing their way through the darkness toward an unseen destination.

West of the Florida route the Gulf is crossed by migrating birds at its widest point, from Louisiana southward. Still farther west, the numerous species of Plains and Rocky Mountains birds choose Mexico and Central America for the winter, and make a land journey of short stages that extends over several weeks.

As already stated, the longest migration route is taken by some of the wading birds, especially the American golden plover, the Eskimo curlew, and the turn-

stone. The journey of the plover, which is typical, is wonderful enough to be given in detail. In the first week of June they arrive at their breeding grounds in the bleak, wind-swept "barren grounds" above the Arctic Circle, far beyond the tree line. Some even venture 1,000 miles farther north (Greely found them at latitude 81°). While the lakes are still icebound, they hurriedly fashion shabby little nests in the moss only a few inches above the frozen ground. By August they have hastened to Labrador, where, in company with curlews and turnstones, they enjoy a feast. Growing over the rocks and treeless slopes of this inhospitable coast is a kind of heather, the crowberry, bearing in profusion a juicy black fruit. The extravagant fondness shown for the berry by the birds, among which the curlew, owing to its greater numbers, is most conspicuous, causes it to be known by the natives as the "curlew berry." The whole body of the curlew becomes so saturated with the dark, purple juice that birds whose flesh was still stained with the color have been shot 1,000 miles south of Labrador.

After a few weeks of such feasting, the plovers become excessively fat and ready for their great flight. They have reared their young under the midnight sun, and now they seek the Southern Hemisphere. After gaining the coast of Nova Scotia they strike straight out to sea, and take a direct course for the easternmost Islands of the West Indies. Eighteen hundred miles of ocean waste lie between the last land of Nova Scotia and the first of the Antilles, and yet 600 more to the eastern mainland of South America, their objective point. The only land along the route is the Bermuda Islands, 800 miles from Nova Scotia. In fair weather the birds fly past the Bermudas without stopping; indeed they are often seen by vessels 400 miles or more east of these islands. When they sight the first land of the Antilles the flocks often do not pause, but keep on to the larger islands and sometimes even to the mainland of South America. Sometimes a storm drives them off the main track, when they seek the nearest land, appearing not infrequently at Cape Cod and Long Island.

A few short stops may be made in the main flight, for the plover swims lightly and easily and has been seen resting on the surface of the ocean; and shore birds have been found busily feeding 500 miles south of Bermuda and 1,000 east of Florida, in the Atlantic, in that area known as the Sargasso Sea, where thousands of square miles of sea weed teem with marine life.

Though feathered balls of fat when they leave Labrador and still plump when they pass the Bermudas, the plovers alight lean and hungry in the Antilles. Only the first, though the hardest, half of the journey is over. How many days it has occupied may never be known. Most migrants either fly at night and rest in the day or vice versa, but the plover flies both night and day.

After a short stop of three or four weeks in the Antilles on the northeastern coast of South America, the flocks disappear, and later their arrival is noted at the same time in southern Brazil and the whole Prairie region of Argentina almost to Patagonia. Here they remain from September to March (the summer of the Southern Hemisphere), free from the responsibilities of the Northern summer they have left. The native birds of Argentina are at the time engrossed in family cares; but no wayfarer from the north nests in the south.

After a six-months' vacation the plovers resume the serious affairs of life and start back toward the Arctic, but not by the same course. Their full northward route is a problem still unsolved. They disappear from Argentina and shun the whole Atlantic coast from Brazil to Labrador. In March they appear in Guatemala and Texas. April finds their long lines trailing across the prairies of the Mississippi Valley; the first of May sees them crossing our northern boundary;

and by the first week in June they reappear at their breeding grounds in the frozen North. What a journey! Eight thousand miles of latitude separates the extremes of their elliptical course, and 3,000 miles of longitude constitutes the shorter diameter, and all for the sake of spending ten weeks on an Arctic coast!

ARE BIRDS EXHAUSTED BY A LONG FLIGHT?

During the spring migration of 1903 two skilled ornithologists spent the entire season near the coast of northwestern Florida, visiting every sort of bird haunt. They were eminently successful in the long list of species identified, but their enumeration is still more remarkable for what it does not contain. About twenty-five species of the smaller land birds of the eastern part of the United States, including a dozen common species, were not seen. Among these were the chat, the redstart, and the indigo bunting, three species that are abundant throughout the whole region to the northward. The explanation of this seems to be that these birds, on crossing the Gulf of Mexico, flew far inland before alighting, and thus passed over the observers. It would thus seem that the popular idea that birds find the ocean flight excessively wearisome, and that after laboring with tired pinions across the seemingly endless wastes they sink exhausted on reaching terra firma, is not in accordance with the facts. The truth seems to lie in almost the opposite direction. Endowed by nature with wonderful powers of aerial locomotion, under normal conditions many birds not only cross the Gulf of Mexico at its widest point, but may even pass without pause over the low, swampy coastal plain to the higher territory beyond. So little averse are birds to an ocean voyage that many fly from eastern Texas to the coast of southern Mexico, though this 400 miles of water journey hardly shortens the distance of travel by an hour's flight. Thus, the birds avoid the hot, treeless plains and scant provender of southern Texas by a direct flight from the moist, insect-teeming forests of northern Texas to similar country in southern Mexico. Under favorable conditions, birds can fly practically where, when, and how they please; consequently their choice of route and the distance covered at a single flight are principally governed by the food supply.

RELATIVE POSITION DURING MIGRATION.

The relative position of the northern and southern groups of individuals as a species during the two yearly migrations is one of the doubtful points that late investigations help to elucidate. The supposition is that in the case of species which adopt what might be called normal fall migration, birds which nest farthest south migrate first and proceed to the southern end of the winter range; those that breed in the middle districts migrate next and occupy the middle of the winter range; and finally, those of the northern part of the breeding range migrate last, and remain the farthest north for the winter. In other words, the migration is a synchronous southward movement of the whole species, the different groups of individuals or colonies retaining in general their relative positions. This has been generally believed, but only of late has it been clearly proved as to any particular species.

An example or two will make this clear. The black and white creeper breeds from South Carolina to New Brunswick. In the southern part of its range it nests in April. New Brunswick, however, is scarcely reached by the earliest birds before the middle of May, as the species occupies about fifty days in crossing the breeding range. If sixty days are considered the shortest possible time in which such a bird can build a nest, rear the young, molt, and be ready for the return journey, then no New Brunswick black and white creeper is ready to start south

before the middle of July, and fifty days for the trip will bring the earliest migrants to the Gulf States in September. Yet both old birds and young of the year have been seen by the middle of July at Key West, Fla., 500 miles south of the breeding range, on August 10 in Costa Rica, and on August 21 on the northern coast of South America. These dates prove conclusively that these early migrants south of the United States could not have been birds from the northern part of the range, but must have been those of the southern part.

Black-throated blue warblers reach Cuba in the fall at just about the time that other migrants of the species appear in North Carolina. The inference is that the arrivals in Cuba are the birds that nested in the southern Alleghenies, while those appearing in North Carolina are from the latitude of northern New England or beyond. Redstarts and summer warblers arrive on the northern coast of South America so early (August 27 to September 2) as to prove that they represent the southern breeding birds. Indeed, these representatives of the species are seen in South America at just about the time the earliest of the northern breeding birds reach Florida.

Recent investigations have also shown that many species of birds do not follow this "normal" order of migration. The most southern-bred Maryland yellowthroats are almost nonmigratory, residing throughout the year in Florida; those breeding in the middle districts migrate only a short distance, while those of Newfoundland go to the West Indies, passing directly over the winter home of their fellows in the South. The red-winged blackbirds of the middle of the range in northern Texas are almost stationary, but are joined in winter by migrant redwings from the remote Mackenzie Valley. The palm warblers of the interior of Canada, in the course of their 3,000-mile journey from Great Slave Lake to Cuba, pass through the Gulf States early in October. After the bulk of these have passed, the palm warblers of the northeastern British provinces come slowly down to the Gulf States, and settle there for the winter, content with only a 1,500-mile trip. Some of the blackpoll warblers that pass in spring through Florida proceed northeast 1,000 miles to breed in northern New England, while others, traveling northwest more than 3,000 miles summer in Alaska. Among the Maryland yellowthroats that nest in western Pennsylvania are undoubtedly individuals that during the winter are scattered in the Gulf States, the West Indies, and even Central America. Enough examples have been given to show that no invariable rule, law, or custom exists in regard to the direction or distance of migration. The winter distribution can not be certainly determined from the summer home, nor does it positively indicate that home. Although a certain general tendency is observable, yet each species presents a separate problem, to be solved for the most part only by patient, painstaking observation and by the recognition of subspecies.

Spring migration has its own special features. No such synchronous movement occurs in the spring as has been described as "normal migration" in the fall. With many birds, possibly the majority of land birds, the first individuals of a species to appear in spring at a given locality are supposed to be old birds that nested there the previous year. The supposition is that these birds are followed by those that nested in the region just to the north; and that later, those of still more northern homes pass by; and that the last to appear will be those whose homes are in the most northern part of the breeding range. If, then, for any species, the southern nesting birds lead the van in both fall and spring migration, and the near guard in each case is composed of northern breeding birds, it follows that some time between October and April a transposal of their relative positions occurs; and that the more southern birds pass over the more northern ones, which

delay their migration, knowing that winter still holds sway in their summer dominions. Just when and where this transposal of relative position occurs is one of the problems of migration reserved for future solution. Nor is it yet settled whether the northern-bred birds remain strictly within their winter range until after their more southern congeners have passed by, or whether they begin an early migration at so slow a speed as soon to be overtaken and passed by their impetuous cousins.

Still later in the spring another transposal occurs. The northern birds pass across the southern portion of the breeding range, where the southernmost birds are already busy with their domestic duties. Spring migration seems to be therefore for some species a game of leapfrog—the southern birds first passing the northern, and the northern passing them in turn.

RELATION OF MIGRATION AND TEMPERATURE.

A popular notion exists that birds push northward to their summer homes as soon as weather conditions permit. This may be true of a few species, but certainly birds in general have no such habit. Some summer warblers that return to the Great Slave Lake region to breed, after spending the winter in Central and South America, arrive at their nesting grounds when the average daily temperature is about 47° F. According to the notion mentioned, these birds might be expected to move up the Mississippi Valley and on to their summer homes at the same time as the northward moving temperature of 47° F. But were this so, they would never leave the United States, for the average of the coldest month of the year at New Orleans is 54° F. As a matter of fact, the summer warblers of Great Slave Lake are probably too well content with the warm, humid, insect-laden air of the South to brave the arctic blasts before necessity compels. They linger in the Tropics so late that when they reach New Orleans, April 5, an average temperature of 65° F. awaits them. They now hasten; traveling north much faster than the spring does, they cover 1,000 miles in a month, and find in southern Minnesota a temperature of 55° F. In central Manitoba the average temperature they meet is 52° F., and when they arrive late in May at Great Slave Lake they have gained 5° more on the season. Thus, during the whole trip of 2,500 miles from New Orleans to Great Slave Lake, these birds are continually meeting colder weather. In fact, so fast do they migrate that in the fifteen days from May 11 to 25 they traverse a district that spring requires thirty-five days to cross. This outstripping of spring is habitual with all species that leave the United States for the winter, and also with most of the northern birds that winter in the Gulf States. Careful examination of the migration records of each species of the Mississippi Valley shows only six exceptions—Canada goose, mallard, pintail, common crow, red-winged blackbird and robin.

The robin as a species migrates north more slowly than the opening of the season; it occupies seventy-eight days for its trip of 3,000 miles from Iowa to Alaska, while spring covers the distance in sixty-eight days. But it does not follow that any individual bird moves northward at this leisurely pace. The first robins that reach a given locality in the spring are likely to remain there to nest, and the advance of the migration line must await the arrival of other birds from still farther south. Therefore, each robin undoubtedly migrates at a faster rate than the apparent movement of his species as a whole, and does not fall behind the advancing season. This is true of most, if, not all, of the other seemingly slow migrants. Late and rapid journeys of this kind offer certain advantages; fewer storms are encountered, the mortality rate is lowered, food is more plentiful along

the way, and the birds reach the nesting site full of energy, bubbling over with song, and in good condition to assume the cares and labors of house building and brood raising.

VARIATIONS IN THE SPEED OF MIGRATION.

The immense variation in the speed with which migrants travel different parts of the broad bird highway that extends from Gulf to Arctic Ocean, by way of the Mississippi and Mackenzie valleys, is a recently ascertained fact of special interest. The black-poll warbler furnishes one of the best examples of this. It winters in north central South America and migrates in April across the West Indies to Florida. From here some individuals pass on northwest to the Mississippi Valley, thence north to Manitoba, thence northwest to the valley of the Mackenzie, and thence almost due west to western Alaska. From the Gulf of Mexico to Minnesota a fairly eniform average speed of 30 to 35 miles per day is maintained; southern Indiana and Missouri are reached the first week in May, southern Iowa early in the second week, and southern Minnesota is entered by the middle of the month. Then comes a "spurt;" within another week the black-polls appear in the central part of the Mackenzie Valley, and the following week they arrive in northwestern Alaska, many individuals undoubtedly averaging more than 200 miles per day during the latter part of the journey. Thirty days are thus occupied in traveling the 1,000 miles from the Gulf of Mexico *north* to southern Minnesota, and scarcely half that time in traversing the 2,500 miles thence *north-west* to Alaska. The direction of migration is emphasized because this change of direction is intimately connected with the great increase of speed, as will be shortly explained.

A similar increase of speed is shown by many other species. The average speed of migration from New Orleans to southern Minnesota for all species is close to 23 miles per day. Sixteen species maintain a daily average of 40 miles from southern Minnesota to southern Manitoba, and from this point 12 species travel to Lake Athabasca at an average speed of 72 miles a day, 5 others to Great Slave Lake at 116 miles a day, and 5 more to Alaska at 150 miles a day.

The reason for these remarkable differences is not far to seek. The speed increases as the birds move northward because the advance of the seasons is more rapid in the northern interior than on and near the southern coast. The farther removed a district is from the ocean, the greater the extremes of its temperature. At New Orleans, La., the average daily temperature of January is 54° F., and that of July is 82° F., while at Winnipeg, Manitoba, the corresponding average temperatures are: January, -7° F., July, 66° F. Hence, while the temperature at New Orleans is rising 28 degrees, that at Winnipeg rises 73 degrees. Consequently, any given isotherm, as it moves north during the spring in the Mississippi Valley, continually increases the speed of its advance. The isotherm of 35° F., corresponding to the commencement of spring migration, advances north at a rate of 3 miles per day from January 15 to February 15, 10 miles daily during the next month, and 20 miles daily during the following month.

But an additional explanation must be sought for the wonderfully quickened speed with which the birds pass northwestward from Minnesota to the Mackenzie Valley. Along the eastern foothills of the Rocky Mountains isotherms travel north faster than at corresponding latitudes farther east. From February 15 to March 15 the isotherm of 35° F. (the line of spring) passes along the foothills from New Mexico to northern Colorado at the rate of 12 miles per day. During the next month, under the influence of the chinook winds, its rate of northward progress is

increased to 40 miles a day, so that by April 15 it has reached Lake Athabasca. Spring has come with a rush on this western interior country. The result is that during the height of the migration season, from the middle of April to the middle of June, the southern end of the Mackenzie Valley in the Province of Athabasca has just about the same temperature as the Lake Superior region 700 miles farther south.

These conditions, coupled with the diagonal course of the birds across this region of fast-moving spring, necessarily exert a powerful influence on bird migration. On March 1 the earliest robins reach southern Iowa, where they find an average daily temperature of about 34° F.; a month later they appear in central Minnesota and find the same temperature, birds and spring each having gone northward at the rate of 13 miles per day. Those robins that fly from eastern Minnesota and western Wisconsin to Lake Superior and Keewatin, by increasing their speed to 25 miles per day, arrive on April 21 at latitude 52° in southern Keewatin, still closely following the temperature of 34° . But by this date the 34° F. isotherm has reached central Athabasca, and the central Minnesota robins that travel to the Mackenzie Valley and Alaska must double and quadruple their speed as they take a northwestward diagonal, if they are to keep up with the season. Though robin migration does not quite do this, yet a speed of 70 miles per day is reached by the species in this northwestward flight—more than three times the speed attained by the Keewatin birds.

THE UNKNOWN.

Interest in bird migration goes back to a remote period. Marvelous tales of the spring and fall movements of birds were spun by early observers, yet hardly less incredible are the ascertained facts. Much remains to be learned of migration; and it may be of interest to note a few of the mysteries which still occupy attention.

The chimney swift is one of the most abundant and best-known birds of the eastern part of the United States. With troops of fledglings, catching their winged prey as they go, and lodging by night in some tall chimney, the flocks drift slowly south, joining with other bands until on the northern coast of the Gulf of Mexico they become an innumerable host. Then they disappear. Did they drop into the water and hibernate in the mud, as was believed of old, their obliteration could not be more complete. In the last week in March a joyful twittering far overhead announces their return to the Gulf coast, but the intervening five months is still the swift's secret.

The mouse-colored bank swallows are almost cosmopolitan, and enliven even the shores of the Arctic Ocean with their graceful aerial evolutions. Those that nest in Labrador allow a scant two months for building a home and raising a brood, and by the first of August are headed southward. Six weeks later they are swarming in the vicinity of Chesapeake Bay, and then they, too, pass out of the range of our knowledge. In April they appear in northern South America, moving north, but not a hint do they give of how they came there. The rest of the species, those that nest to the south or west, may be traced farther south, but they, too, fail to give any clue as to where they spend the five winter months.

The familiar cliff swallow, which swarms over the western plains and breeds from Mexico to Alaska, spends the winter in Brazil and Argentina. It would be expected to reach the United States in spring first in southern Florida and Texas, later in the Rocky Mountains, and finally on the Pacific coast. As a matter of fact, the earliest records of the bird's appearance in spring come from northern central California, where it becomes common before the first arrivals are usually

noted in Texas or Florida. The route the species takes from Brazil to California is one of the yet unsolved migration puzzles.

The red-eyed vireo, the commonest and best known of its tuneful family, winters in Central America, from Guatemala to Panama. The advent of the species in spring at the mouth of the Mississippi and its even-paced passage at 20 miles per day for six weeks to the headwaters of the river are well attested by numerous records. But just about the time northern Nebraska is reached, and before they have appeared in any of the intervening country, red-eyed vireos are noted in south British Columbia, 1,000 miles to the northwest. Is the presence of the red eye in British Columbia to be explained by the theory that it suddenly flies 1,000 miles in a single night?

It is such problems as these that continually vex and fascinate the investigator.

Washington, D. C.

Pelicans Nesting at Utah Lake

BY REV. S. H. GOODWIN

EIGHT miles southwest of the Provo Resort, on Utah Lake, lies a small, low crescent-shaped ridge of land known as Rock Island. During the period of unusually high water, of the past spring, the major portion of this island was barely two feet above the water, while a part of it was considerably less. When visited by our party it was about two hundred yards in length by about thirty yards in width, at the widest point, while fully one hundred yards of the western horn of the island was under some three inches of water, above which rose a broken line of detached boulders. The principal part of this island is a limestone ledge with loose rocks and boulders scattered over the surface; about one-third of the eastern end is of gravel. The only vegetation consists of a few clumps of stunted willow, and a narrow, ragged fringe of tules along the northern edge.

Equipped with glass, gun, and camera a party of four of us laboriously made our way toward this island one June morning, for reports had come that hundreds of pelicans (*Pelecanus erythrorhynchos*) were nesting there for the first time in the history of the island. From time immemorial these strange, solemn birds had foraged on Utah Lake—where a few years ago many hundreds of them were killed for the small bounty offered by the state—but never before had they nested here. Apparently they preferred the larger and more secluded islands in Salt Lake, fifty miles to the north. We had loaded our plunder into a small, water-soaked sail-boat, made everything ready and set sail—but we did not sail, as not so much as one breath of air was stirring and as there was no promise of an immediate change for the better, we rowed the entire distance. After the two preachers had bent to the oars for more than an hour and a half, and the sun had painted flame-color exposed wrists and unprotected necks, our sailing-master—who by the way is an old "salt," and a descendant of generations of Scandinavian sea-rovers—cast his weather-eye toward the yet distant island and quaintly remarked: "I dinks ve vas nearer dot island dan ven ve started—I don' know." Encouraged by this heartening observation, the oarsmen renewed their efforts, and an hour later the boat touched the pointed end of the island.

On the way over pelicans singly, and in twos and threes, or in small squads passed us at a terrific rate of speed, those going toward the island flying close to the water with wing strokes that seemed fairly to devour space. These birds had been fishing in the tule-covered bottoms, east of the lake, where high water had carried multitudes of fish and, gradually subsiding, had left them stranded in the shallows—a veritable paradise for pelicans and other fish-eating birds.

As we drew near the island, the glass showed the side toward us to be literally covered with these gigantic, snow-white creatures, and long lines of them, floating gracefully upon the unruffled surface of the water, were seen near the western shore of the lake. When we were about a half a mile distant hundreds of pelicans and a few gulls (*Larus californicus*) rose with a great rush of wings and much clamor, above which could be heard the sharp cries of a small flock of terns, (*Sterna forsteri*) which accompanied them. Soon after nearly all that remained



YOUNG AMERICAN WHITE PELICANS

took wing, and after circling about for a few moments, made off to the westward to join their companions. Not till our boat touched the eastern point of the island did the last of the pelicans leave.

The first thing that forced itself upon our attention, even before we landed was the dreadful nauseating odor. With dead birds, old and young, by the scores scattered over the island, and heaps of fish everywhere, just as they had been dumped out of the pouches of the old birds and in different stages of putrefaction, and with all the filth of a fully occupied roosting-ground—upon all of which beat the rays of a summer's sun—the result was something to be remembered, but not to be desired. The three members of the party, whose desire for ornithological information is not among the principal traits of their character, and who preferred to take their first lessons in bird lore under less trying conditions, soon retreated to the boat.

We found the young birds in two groups, about ten yards apart, near the western end of the island. There were two hundred or more, as nearly as I could count and estimate, and they ranged in size from a half grown gosling, to that of a large fowl, and larger. They were crowded together at the edge of the water in a solid mass—but, try as we would, we could not drive them into the water, those in the center, in many instances standing on the bodies of their younger and less fortunate relatives.

Young pelicans must certainly be given a prominent place in the front rank of the ridiculous and grotesque in bird life. Their excessively fat, squabby bodies, the under parts of which are bare, while the upper parts are covered with a wool-like coating, hardly distinguishable from that on the back of a four weeks-old lamb; these bodies set on a pair of legs, of the use of which the youngsters seem to have no very clear notion, so that when they undertake to move about they wobble and teeter and balance themselves with their short, unfledged wings, often tumbling over; many of them (on this occasion) with their mandibles parted, and panting like a dog after a long run on a hot day, the pouch hanging limp and flabby, like an empty sack, shaken by every breath—form, appearance, movement, all combine to make these birds absurdly ridiculous.

When we approached these birds, those nearest the water would not move an inch, while those nearest us in their frantic endeavors to get away would try to climb up and over the struggling, squirming mass in front of them, sometimes succeeding, but oftener rolling back to the ground where, not infrequently they alighted upon their backs, and lay helplessly beating their wings and kicking their feet in the air—after the fashion of some huge beetle—till they were helped to right themselves. When left to themselves, not a few of these birds would “sit down,” just as a dog sits on his haunches, the wings sometimes hanging limp at the sides, at others folded back. The larger part of them, however, simply squatted in the usual manner. They made no sound, save when we attempted to drive them, when an occasional puppy-like grunt would be heard, as if some hapless youngster had fallen, or been trodden upon.

We were not fortunate enough to see these young birds feed themselves, but one who visited the island a few days before we did, said that a bird would take a fish, hold up its head—as a hen does when she drinks—shake it from side to side till the fish slid down. Their fat bodies certainly showed that they were all well fed.

We were too late to find many nests—only five in all—and these yielded seven eggs, one of which was fresh, the others only slightly incubated. These nests, with a single exception, consisted simply of heaps of gravel in the center of which was a slight depression where the eggs were laid. The exception was built of coarse sticks and pelican's feathers, and contained two eggs. All the eggs secured were noticeably blood stained, owing, I suppose, to their size and the roughness of the shell.

Evidently the pelicans believe in keeping “open house,” and certainly they are generous entertainers for, as already noted, there were immense quantities of fish on the island—heaps of them everywhere. And though these birds are limited in the matter of variety of food, they make up for this by the impartiality with which they take the different species of fish which this particular lake affords them. Upon examination I found club, carp, catfish, suckers, an occasional bass. More than one-half the fish seen were chub, and in connection with these fish an interesting coincidence appeared. Of twenty-three piles examined, all of them but three contained either five or six of these small fish—the three exceptions con-

tained four each. Do the pelicans keep tab on the number of fish stowed away in the pouch, and stop at a certain figure?

The old birds for the most part did not come near the island while we were there. Now and again, however, a line of six or eight would circle about above us, out of gunshot, turn their heads so as to look down upon us as they passed over, and then return to their companions. Soon after we set out to return to the mainland a "committee" of six inspected the premises, flying around the island several times but did not alight. This manœuver was repeated several times, though not by the same number of birds. Finally, when we were more than a half mile distant, an old bird dropped down upon the island, and soon others came, usually flying in lines, all the birds back of the leader flapping their wings, or sailing, as he did, this characteristic giving them a strange, machine-like appearance. It was not long before all the pelicans in sight were upon, or about, the island, glad no doubt, to resume the even tenor of the life which had been so rudely disturbed by intruders.

Provo City, Utah.

Notes on Unusual Nesting Sites of the Pacific Yellow-throat

BY A. W. JOHNSON

AN exceptionally heavy rainfall in the autumn of 1903 and spring of 1904 flooded all the low-lying lands at the northern end of Clear Lake, California. The whole of the tule lands, covering hundreds of acres were still under water at the end of May. In normal seasons the old clumps of tules on and near to the lake shore, and in and around the many ponds and sloughs in the vicinity, afford favorite nesting sites to bicolored and yellow-headed blackbirds, song sparrows, tule wrens, and also to great numbers of that charming little bird, the Pacific yellow-throat (*Geothlypis trichas arizela*).

The object of this paper is to give some little account of the admirable way in which the yellow-throats rose to the occasion and adapted themselves to new and changed conditions. Nearly all the nesting sites noted must, I think, be looked upon as more or less abnormal. From May 14 to July 12, 1904, I examined over sixty nests containing either eggs or young, and in addition many others in course of construction. A remarkable divergence in the choice of nesting sites is shown by different pairs, both as to situation and proximity to water.

Very few nests were built right on the ground; far more, notably those placed amongst tangled grass and weeds and in growing barley, were raised slightly above it from two to six inches as a rule, while nests built in trees and bushes ranged all the way from a foot to twenty-two feet eleven inches above the ground.

Ten nests were in black oak trees, mostly in thick bunches of mistletoe growing on the trees, and varied in height from five feet to seventeen feet six inches, actual measurement. Two nests were in cypress trees, one each in blue gum and cottonwood, six in olive trees in an orchard one hundred yards from water; many were in willows, standing in shallow water and in alder bushes bordering sloughs; others were in patches of wild rose bushes close to a lake, slough or stream. One nest was found in a cultivated rose bush trained against the side of a house, another affixed to stalks of alfalfa, while a third was built in the middle of a dwarf sun-

flower plant and close to the ground on the bank of a stream; a fourth was placed six inches up, right in the center of a tussock of rushes growing on a small inland in an almost dry water course.

A strange site was that of one pair which built their nest right in an old nest of bicolored blackbird that was placed three and a half feet up in a very small willow sapling, standing in water. Only five out of the great number of nests examined could be classed as truly typical. They were built in clumps of stranded tule and varied in height from six inches to five feet.

June 12 was a red letter day. I had the good fortune to enjoy the companionship of my friend, Mr. H. R. Taylor, the esteemed president of the Cooper Club. We put in a long, hot day's work, exploring by aid of our boat the banks of a large slough, both sides of which had many thickets of willow and alder with here and there large patches of wild rose upon them. We located no less than twenty-two nests of yellow-throats. One nest held young birds, nine, eggs and the rest were in various stages of construction. With all due acknowledgements to Mr. Taylor I transcribe a few extracts from the notes he made: "No. 6, nest building; ten feet from ground in willow near banks of slough. No. 14, nest and egg; three and a half feet up in willow, standing in water; willow catkins freely used in composition of outer walls of nest. No. 17, nest and four eggs; built in wild mint, compact and standing high, evidently out of place in its odd situation being only partially concealed; six inches from ground, built on side of stream now dry and about one hundred yards from the nearest water. No. 18, nest just completed; built on the ground in sunflower on bank of same stream as No. 17, and thirty yards from it and about seventy from lake. No. 20, nest building about twelve feet up in willow on edge of lake. One nest, number five, with three eggs, was placed five and a half feet up in a willow standing in water near bank. A heron's feather was fixed into one side of the nest and its top projected three inches or more beyond the rim."

In connection with nest 14, composed partly of willow catkins, I found in the last week of May a very large nest built almost entirely of willow catkins and placed four feet up on a pendant branch of a willow standing in water. This nest is now in the possession of Mr. Taylor.

On June 13 we took careful line measurements of the two highest nests discovered up to that time. The first was placed in a crotch of a small black oak on a knoll near the lake and was exactly seventeen feet six inches from the ground. The other nest was built in a cypress on a hillside and near a residence. It contained young birds just hatched. It was eighteen feet ten inches up, and about three hundred yards from the nearest water. Both these measurements have the advantage of being checked and verified by Mr. Taylor. The record nest as to height was I believe a second nest of the cypress pair. It was built in a crotch of a blue gum standing in the same grove as the cypress, the bases of the two trees being only sixteen feet apart. On July 12 when measurement was taken the nest held, judging from their appearance, three highly incubated eggs. The height of this nest from the ground was twenty-two feet eleven inches. One other nest needs special mention. On June 18 it contained two apparently deserted eggs. Its situation was an extraordinary one, at least a quarter of a mile from either lake or slough though a small stream was within two hundred yards. The nest was built four and a half feet up in a rose bush trained against the eastern wall of an unoccupied house, standing upon a hill, just such a site as the house finch delights in. I have often seen their nests in this bush. Curiously enough no set of

yellow-throat was met with this year that contained more than four eggs. In previous seasons I have found a few sets of five eggs, but never more. Four eggs are the usual completed laying; three eggs to a first set is not uncommon, while a set of five is a comparative rarity.

Upper Lake, Lake County, California.

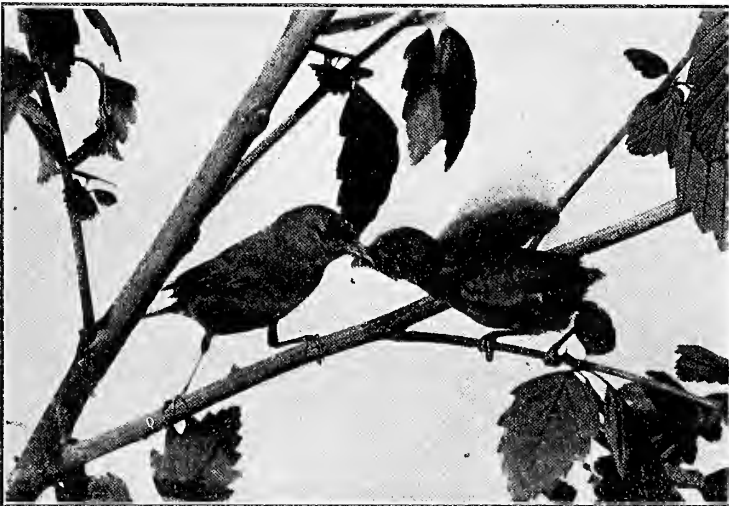
The Lutescent Warbler

(*Helminthophila celata lutescens*)

BY WILLIAM L. FINLEY

ILLUSTRATED BY HERMAN T. BOHLMAN

THE first nest of this warbler I ever found was tucked up under some dry ferns in the bank of a little hollow where a tree had been uprooted. The mother flushed when I was twenty feet distant and flew straight over the



LUTESCENT WARBLER FEEDING YOUNG

tree-tops. I watched several times to get a good look at the owner, but she was very shy and not till the following season, when I found two more nests of the same species, did I place this warbler on my list of bird acquaintances.

The second nest was on a hillside under a fir tree, placed on the ground in a tangle of grass and briar. It contained five eggs, pinkish-white in color, dotted with brown. This owner was not so shy as the first but remained in the tree overhead. I found a third nest of four eggs in a sloping bank just beside a woodland path. A fourth nest was tucked in under the overhanging grasses and leaves in an old railroad cut. It contained five fresh eggs on the 8th of June.

Last summer I found a nest placed in a somewhat different position. While watching a white-crowned sparrow my attention was attracted to a lutescent warbler in a willow. Twice she carried food into the thick foliage of an arrowwood bush. A cluster of twigs often sprouts out near the upper end of the branch and here, in the fall, the leaves collect in a thick bunch. In one of these bunches, three feet from the ground, the warbler had tunneled out the dry leaves and snug-

ly fitted in her nest making a dark and well-protected home. For some reason the nest did not contain the full complement of eggs, but on June 2, the day I found the nest, it held one half-grown bird and an addled egg.

Dr. Cooper speaks of this orange-crowned warbler as an abundant and common resident of California near the coast and found in summer throughout the Sierra Nevada. In March they begin to sing their simple trill, which is rather musical and audible for a long distance.

I have found this warbler quite abundant throughout the western part of Oregon, where they begin nesting in the latter part of May and the first of June. Over on the Oregon coast the nesting season is always a little later.

There amid the continued roar of the breakers, within a few yards of the ocean beach, I found a lutescent warbler sitting on five eggs, the first of last July. This nest was also placed above the ground in a bush two feet up. So it is not rare in this locality to find the lutescent warbler nesting above ground.

This warbler is not showy like some of its cousins, but in harmony with



LUTESCENT WARBLER AND YOUNG

its shy disposition it carries its brighter colors beneath the outer surface. The distinguishing feature that ornithologists have selected in identifying this feathered mite is the patch of pale orange hidden by the grayish tips of the cap feathers. But it is seldom that this hidden crown of gold is seen in the live bird. If you want to see it you will have to take the time and patience to cultivate the owner's acquaintance.

One generally has to force his friendship upon a bird by lying around the nesting site for hours at a time. That is the way I had to do with "Lutie." Sometimes you are accepted without much hesitation but often you are regarded with continued suspicion. It all depends upon the bird. The first day I found the lutescent warbler's nest I sat down fifteen feet away and it was almost an hour before the mother would return to the nest and feed her young. Fifty yards down the hillside a bush-tit had hung her nest. I was examining the nest when the parents came with food. I sat down five feet away and in exactly three minutes by the watch one of the parents entered and fed the young.

"Lutie" became quite tame after I had visited her for two or three days. She

lost her fears for the camera. Plate after plate was snapped but her movements were always very rapid and weather conditions are not always of the best in Oregon.

As I sat in the bushes by the nest with the camera by my side I had almost as good a chance to study the marking of her dress as if I had held her in my hand. She would alight on a twig three feet away and I often saw her orange crown when she ruffled up her feathers in inquiry or alarm. It seems strange that such a delicate tinge of orange should be hidden just as if it would fade away in the sunshine. Maybe in time when this fidgety little fellow has reached a higher stage in the evolution of his existence he will flit about the trees in a real cap of gold.

Portland, Oregon.



NEST OF LUTESCENT WARBLER

Bird Surgeons

BY W. OTTO EMERSON

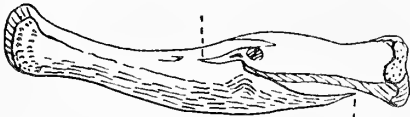
IT was only a stray bone of a peculiar shape among the drift along the Monterey beach that attracted my eye—a bone differing from hundreds of others that may be found in a locality where dead birds are cast ashore by the waves. On a closer examination it was seen to be the humerus of a bird as large as a gull or a cormorant, and it had been broken at some stage of its life.

I at once recalled the many mythical tales of birds being able to care for their broken legs or wings by binding or wrapping them with hairs, feathers, and other handy materials. A citizen of Cleveland writes, for one of the Cincinnati papers, an account of his finding two young swallows in his barn. One of them had a leg thoroughly bandaged with horse hairs, presumably accomplished by a parent. He carefully removed the hairs, one by one, and found that the nestling's leg was broken. On visiting the nest next day what was his surprise to find the young swallow's leg bandaged as before. The bird surgeon was not again interfered with, and in about two weeks he found that the horse hairs were being removed, a few each day; and finally when all were off, the union of the bones was evidently perfect.

Another case is cited from "Youths' Chronicle." A French naturalist writes that on a number of occasions he has shot woodcock which were found to be convalescing from previously received wounds. This naturalist goes on to state that

in every case he had found the wounds neatly dressed with down plucked from the feathers, and arranged evidently by the long bill of the bird. In some instances a solid plaster was thus formed, and in others "bandges" had been applied to wounds or broken limbs. One bird shot had been severely wounded at some recent period, and had been protected by a sort of net work of feathers taken from the bird's own body, so arranged as to completely cover the wound. The feathers were fairly netted together, passing alternately under and above each other, forming about the broken limb a textile fabric of strong binding power.

Might it not be more reasonable to conclude, in the case of the swallow, that the young bird had entangled itself with some horse hairs that were used in the nest and had broken its leg, while the Cleveland citizen happened to observe the bird's condition and regarded it as a piece of wonderful animal intelligence? A case similar to that of the wounded woodcock has come under my personal observation. This bird was a female valley partridge (*Lophortyx californicus*). As I was coming down a ridge one November day of 1901 this quail fluttered along almost under the horse's feet, and then escaped into the tall, dry weeds where I captured her. She had been in some way hurt above and below the knee, from



either a shot or a trap. The bird, on getting away into the thick brush naturally drew her wounded leg up under the flank feathers. The oozing blood would cause the soft downy parts of the feathers to adhere and dry onto it. Then as the bird felt the need of food or was obliged to move, she would lower the leg to use it, when off would come a few feathers adhering to the wound. This would also cause some parts of the wound to bleed afresh, and more soft down with bits of fine dry grass and dirt would be added as the bird crouched down, forming a regular cast or bandage. This seems to be the explanation of many cases of natural surgery, and was certainly what happened to the quail.

I recall also the case of a male Brewer blackbird (*Euphagus cyanocephalus*) taken one winter. The leg had been broken midway above the knee and the ends of the bones had slipped by each other and healed, the muscles holding them in place. Another specimen had no toes on one leg, there being a stump.

This brings me back to the bone picked up on the beach. A cut is here given showing the overlap, between the two dotted lines, where the healing has taken place. The bone had been broken in some manner, had turned half way around, slipped together about an inch, where by some means or other it had been kept until it had grown together. On the lower side the splintered bone may be seen in wedge-shaped form. The humerus is three inches long as healed and some four inches long in its natural condition.

Haywards, California.

A List of Summer Birds of the Piute Mountains, California

BY C. H. RICHARDSON, JR.

DURING the summer of 1903, I spent a month's vacation in the Piute Mts. These mountains consist of a single range, lying between the Tehachapi Hills and the Sierra Nevada mountains. My headquarters was a small cabin about six miles northwest of the Piute post-office. The hills which surround

the higher mountains at this point (elevation 6000 feet) support a scattering growth of digger pine (*Pinus sabiniana*), juniper (*Juniperus occidentalis*), nut pine (*Pinus monophylla*), and one species of oak, while the intervening space is occupied by a thick though not impenetrable growth of chaparral. The higher mountains, from 6000 to 7500 feet in elevation, are clothed with heavy forests of yellow pine (*Pinus ponderosa*) and silver fir (*Abies concolor*), with an occasional grove of mountain live oak (*Quercus chrysolepis*) or a patch of wild cherry brush mingling with them. The water, in the foot hills, comes in the form of small streams found in oak-lined canyons, while in the higher mountains, the supply is confined chiefly to springs, there being few streams of any size.

A number of species whose identification was uncertain, were omitted. Although this list is by no means complete, I think it will give a comprehensive idea of the summer birds of this region. I here wish to extend my thanks to Mr. Joseph Grinnell for the identification of specimens and help in general.

Dendragapus o. sierræ. Sierra Grouse. Seen several times in the pines. One was taken.

Oreortyx p. plumiferus. Plumed Quail. Common in the higher mountains and often seen in the foothills.

Columba fasciata. Band-tailed Pigeon. Seen on several occasions in the high mountains.

Zenaidura macroura. Mourning Dove. Frequently found about springs in the foothills.

Accipiter cooperi. Cooper Hawk. Common. They are a terror to the quail and smaller birds of this section.

Buteo b. calurus. Western Red-tail. Tolerably common over entire country.

Falco s. phalæna. Sparrow Hawk. Seen occasionally, though not common.

Otus a. bendirei. California Screech Owl. One flew into the cabin at night. This was the only one seen.

Asio m. pacificus. Pacific Horned Owl. Quite common. A pair roosted in a dense oak not far from the cabin.

Glaucidium gnoma. Pigmy Owl. One specimen was taken about nine thirty in the morning.

Geococcyx californianus. Roadrunner. One was seen in some fallen timber at an elevation of 7500 feet.

Dryobates v. hyloscopus. Cabanis Woodpecker. Common in the coniferous forests.

Dryobates p. turati. Willow Woodpecker. Abundant throughout the timber districts.

Xenopicus albolarvatus. White-headed Woodpecker. Common among the pines.

Colaptes c. collaris. Red-shafted Flicker. Abundant everywhere.

Phalænoptilus n. californicus. Dusky Poorwill. Common in the foothills and among the rocks on the exposed ridges of the higher mountains.

Aeronautes melanoleucus. White-throated Swift. Swifts were seen quite often flying about the hillsides and a few were noticed in the higher mountains. One specimen was secured.

Selasphorus alleni. Allen Hummer. Humming birds were numerous wherever flowering plants were found. Undoubtedly *S. rufus* and *Stellula calliope* occur with this species.

Contopus borealis. Olive-sided Flycatcher. One specimen of this species was secured and others were seen the same day. These were the only ones noted.

Contopus richardsoni. Western Wood Pewee. Juveniles of this species were taken in the pines where they were plentiful.

- Empidonax difficilis*. Western Flycatcher. Common everywhere.
- Cyanocitta s. frontalis*. Blue-fronted Jay. Quite common among the pines.
- Aphelocoma californica*. California Jay. Abundant in the foothills.
- Carpodacus cassini?* Purple Finch. A purple finch was seen in the pines.
- Carpodacus m. frontalis*. House finch. Common about springs in the foothills.
- Astragalinus ps. hesperophilus*. Arkansas Goldfinch. Frequently seen near springs in the hills.
- Astragalinus lawrencei*. Lawrence Goldfinch. Seen occasionally flying overhead.
- Spizella socialis arizonæ*. Western Chipping Sparrow. Abundant and in flocks among the pines.
- Junco h. thurberi*. Sierra Junco. Very common.
- Amphispiza b. nevadensis*. Sage Sparrow. By far the commonest bird in the foothills. Usually most numerous near water.
- Aimophila ruficeps*. Rufous-crowned Sparrow. These sparrows were occasionally seen about brush patches both in foothills and higher mountains but were rather shy.
- Pipilo m. megalonyx*. Spurred Towhee. Common in foothills.
- Pipilo crissalis*. California Towhee. Common though not so numerous as the spurred towhee.
- Zamelodia melanocephala*. Black-headed Grosbeak. Seen on one occasion in the pines.
- Piranga ludovciana*. Western Tanager. Quite common everywhere.
- Tachycineta t. lepida*. Northern Violet-green Swallow. Very common in the higher mountains.
- Phainopepla nitens*. Phainopepla. Seen once.
- Lanius l. excubitorides?* White-rumped Shrike. A shrike which was undoubtedly of this species was seen on a fence near the Piute post-office.
- Vireo s. cassini*. Cassin Vireo. One specimen was taken and several others were seen.
- Helminthophila c. lutescens*. Lutescent Warbler. One specimen of this species was taken. No others were seen.
- Dendroica auduboni*. Audubon Warbler. Very common among the pines. Many juveniles were seen.
- Dendroica nigrescens*. Black-throated Gray Warbler. Frequently seen among the oaks over the entire country.
- Geothlypis tolmiei*. Tolmie Warbler. Common everywhere.
- Wilsonia p. chryseola*. Golden Pileolated Warbler. Common about springs in the foothills.
- Mimus p. leucopterus*. Western Mockingbird. Only seen once.
- Toxostoma redivivum*. California Thrasher. Common in the foothills.
- Salpinctes obsoletus*. Rock Wren. Often seen about large piles of boulders in the foothills.
- Catherpes m. punctulatus*. Dotted Canyon Wren. Only a few seen in the foothills.
- Thryomanes b. eremophilus*. Desert Wren. Numerous about brush patches in foothills. A specimen taken appears to closely resemble this form.
- Certhia a. zelotes*. Sierra Creeper. Abundant in the timber.
- Sitta c. aculeata*. Slender-billed Nuthatch. Numerous in the conifers.
- Sitta canadensis*. Red-breasted Nuthatch. Not so plentiful as *aculeata* or *pygmæa*.
- Sitta pygmæa*. Pygmy Nuthatch. Common.

Bæolophus inornatus. Plain Titmouse. Abundant about oaks in the foothills.
Parus gambeli. Mountain Chickadee. Very common in higher mountains and occasionally met in the foothills.

Chamæa f. henshawi. Pallid Wren-tit. Quite common about brush-covered hills.

Psaltriparus m. californicus. California Bush-tit. Numerous in oak regions, both in foothills and higher mountains.

Polioptila c. obscura. Western Gnatcatcher. Common in foothills.

Merula m. propinqua. Western Robin. Quite plentiful in higher mountains.

Sialia m. occidentalis. Western Bluebird. Common everywhere but most numerous among the pines and firs.



MRS. FLORENCE MERRIAM BAILEY

There are probably few writers who have exerted a more wholesome influence on the trend of popular ornithology than Mrs. Florence Merriam Bailey, whose "Birds Through an Opera Glass" (1889) has been one of the most successful and effective books of its class. Mrs. Bailey has had the advantage of a wide and varied field experience throughout the West, as well as in the eastern states, and her "A-birding on a Bronco," like all of her works, reflects an intimate acquaintance with the live bird. She has been a frequent contributor to ornithological magazines and has written, besides the two books already mentioned, "Birds of Village and Field," and the well-known "Handbook of Birds of the Western United States," deservedly characterized as "the most complete text-book of regional ornithology which has ever been published." "As an observer, Mrs. Bailey is unmistakably keen, discriminating, and accurate; as a writer, always simple and true, at times highly vigorous and original."

FROM FIELD AND STUDY

The Capture of *Totanus glareola* in Alaska.—During a collecting trip to the island of Sanak in 1894, while I was collecting sets of the Aleutian song sparrow along the beach, May 27, I flushed from behind some large boulders a flock of Aleutian sandpipers. When they flew I detected a peculiar bird note from their direction, and as it was new to me I looked to see if I could detect the owner. I soon discovered a long-legged snipe in the flock, which appeared to have been the author of the note. The flock soon settled on the beach not far off, and I was soon after the snipe, which alighted some distance beyond the others. It proved to be very shy, but I at last killed it, after firing several times at long range and following along the beach for half a mile.

The specimen, which proved to be a female, was sent to the Smithsonian Institution, and there identified by Mr. Ridgway as *Totanus glareola*. Three days after taking the specimen another bird was seen, which I feel reasonably certain belonged to this species, but like the other it was so wild that I could not get a shot, at a reasonable range. It finally flew out to sea and disappeared. This species is not recorded in the American Ornithologists' Union Check-list, I believe, through a misunderstanding on my part. The specimen is still in my collection.—CHASE LITTLEJOHN, *Redwood City, California.*

A Visit to Torrey Pines.—Sorrento, the location of the far-famed Torrey pines, is a



LOOKING EAST FROM LARGEST GROVE OF TORREY PINES

place filled with interest to more than one class of pleasure seekers. Besides the scrubby growth of pines found at no other place on the globe but on the few square miles of coast land at this point and on two of the Santa Barbara Islands, we find here some of the most picturesque and rugged cliffs which it has been my good fortune to see in this part of the state. The formation is a light yellowish sandstone, which the action of the elements for centuries has sculptured into caves, holes and crevices of the most wierd and fantastic shapes, affording protection to many wild animals and birds. These holes and caves are a favorite nesting place for the American barn owl (*Strix pratincola*), and the great horned owl (*Bubo virginianus*).

The accompanying illustration is from a photograph taken by the writer on Saturday, March 21st. Claude Conklin and myself started out at daylight and covered the intervening eighteen miles between San Diego and Sorrento with our horse and buggy in the early part of the forenoon, lunching among the Torrey pines at the point from which the picture was taken. After lunch we started out prospecting for views, nests, eggs, birds or almost anything interesting. While visiting the owlery we discovered seven nests and took a few sets of barn owl eggs, and secured a picture of a family of three young great horned owls in a cave about twenty feet from the base of a cliff and probably sixty feet from the top. We found access to the cave rather difficult, especially with the camera, as we were obliged to traverse a narrow ledge for thirty or forty feet, much of the way being very uncertain owing to the loose sand lodged against the cliff. After arriving at the nest we still experienced trouble, for the space was too narrow to allow of passing the camera, after it was set up, and the young owls refused to look

pleasant and remain quiet at the same time, so I was obliged to engage Mr. Conklin as chief entertainer, while I worked the machine. The presence of two young rabbits in the nest spoke well for the parent owls as providers, and their close scrutiny of all our movements indicated a keen interest in the welfare of their offspring.

We slept that night under the open sky, on a bed of needles of the Torrey pines, and bright and early the next day we made our way down to the so-called shack of the Sorrento Fishing Club, on the beach just below the cliffs, where we found T. W. Coates, the architect and builder of the Club house, fishing in the surf.

On the return trip we came through the Las Pensequitas ranch where we lunched at the spring house and collected two sets of red-tailed hawk's eggs, from nests about sixty-five feet from the ground in sycamore trees.—F. W. KELSEY, *San Diego, California*.

Spring Notes From Bay Counties.—While on a ramble in the foothills south of Novato, Marin county, on March 31, 1902, two white-tailed kites (*Elanus leucurus*) attracted my attention by their tireless energy in driving away California crows, which are extremely numerous in this section, from a certain oak tree in a grain field. As I approached the spot I perceived in another oak nearby what I took to be the nest. As I ascended the tree the kites began flying in an injured manner to draw me away. The nest proved to be but a few twigs and as one of the birds flew above the tree with a twig in its beak I concluded they were building. On closely examining the other oak a nest about the size of a jay's, caught my eye, thirty-five feet up. Imagine my surprise when I found it to contain three richly marked eggs of this rare hawk, the first to be recorded from the country. The nest, a small, flat, frail structure of twigs and lined with grass, measured eight inches over all, the cavity being six and one-half inches across. It is a striking contrast to a nest found in June, 1899, near Geyserville, which was as large as a crow's nest (cf. *Osprey*, Volume 4, No. 4). The set was almost fresh and measure as follows, 1.74 by 1.28, 1.69 by 1.31, 1.69 by 1.31. While I was in the tree with the nest the kites retired to a dead tree some distance away, but on leaving they returned and proceeded to drive the ever-present crows away with renewed vigor. On a second visit on April 20 I searched another group of oaks in the field, the old nest being empty. While in one of the oaks the kites became very pugnacious, and starting from a point twenty yards or so away would sail rapidly in a bee-line towards me swerving upward when within a few yards. When I ascended another oak it was a noticeable fact that the kites retired to the dead tree as in the first instance. Although no nest could be seen from the ground I decided to climb the tree and near the top, forty feet up, I found the nest, similar in construction to the first and containing five eggs with incubation just begun. This set gives the following measurements, 1.73 by 1.25, 1.68 by 1.26, 1.62 by 1.25, 1.61 by 1.31, 1.61 by 1.27.

Last year in this region I was rather surprised to find a set of four white eggs, in an old crow's nest in an oak six feet up, on April 6. The nest was lined with feathers, evidently some owl's, and after waiting some hours for the parent I left, as the eggs were cold. This year, on April 6, I found a similar nest thirty-five feet up in an oak with five eggs and the parent proved to be the common *Nyctalops wilsonianus*. On April 20 I found two more eggs in this nest.

On April 13 I took a trip into the San Mateo county foot-hills. Here I came across a strange nest of the western red-tailed hawk (*Buteo borealis calurus*) in an oak forty feet above the ground. It was a long delapidated structure, scarcely wide enough to hold the single egg it contained and which was far advanced in incubation. Another nest about two miles distant in an oak only twenty-five feet up held two fresh eggs. This female was far more demonstrative than the average and with outstretched wings screamed at me from an adjacent oak.—MILTON S. RAY, *San Francisco, California*.

The Roseate Spoonbill in California—Dr. Gambel states that the roseate spoonbill (*Ajaja ajaja*) occurred on the Californian coast in 1849, though I do not understand that he obtained specimens. Nor do I know of the later actual capture of this species in California. Mr. R. B. Heron tells me that he saw a roseate spoonbill standing in a pond about four miles south of San Bernardino on June 20, 1903. It was feeding in the pond near the road and paid no attention as he drove past within gunshot. At first he thought it was a wood ibis (*Tantalus loculator*) but on coming near he saw the pink tinge of the plumage and the spatulate bill. On his return the next morning he brought a gun, but the bird was gone. On mentioning the matter to Mr. H. E. Wilder he told me that about a year previously (1902) when in Riverside he saw a bird fly over that he felt sure was a roseate spoonbill—FRANK STEPHENS, *San Diego, Cal.*

The Snowy Plover.—The following are a few field notes on the nesting of snowy plover (*Ægialitis nivosus*) as observed in the vicinity of Santa Monica on Ballona Beach during the seasons of 1895 to 1901. I find on looking over my field notes of this species that the earliest set taken was on May 24, 1899, eggs unincubated, and the latest set July 1, 1900, incubation slight.

I have looked carefully to find nests before and after these dates but have failed. Thus I would define their breeding time as the month of June, as most of my sets were found during that month and the majority during the first three weeks. During the six years of my observing this species I have collected forty-four sets of which eleven had two eggs each and thirty-three three eggs. The greater part of the sets of two were found at the end of the season, indicating a second set although I have been unable to prove this. A peculiarity was noticed in 1901, as the eight sets I collected all contained three eggs each. In all the above cases where only two eggs were collected the nests were always left long enough to complete the set; thus I am positive that the sets of two were complete. Several plover's nests were found before the eggs had been deposited and the nests carefully watched. The eggs are laid about three days apart.

The nesting ground is a white sandy cape or narrow strip of land between Ballona Swamp and the ocean about two miles long and two hundred yards wide. This place during the fall high tides is completely flooded and deposits of small rocks and broken shells are left there. Among these the plovers place their nests. On approaching it one may be attracted by noticing the little fellows running about on the sand in front of him, or occasionally flying in low wide circles uttering a pleading whistle so characteristic of this species. This whistle I have learned is a danger signal that I am near their nests, and on looking over the ground carefully I may be able to notice fine bird tracks in the white sand or in the patches of white sand between the shells and rocks.

In going over the ground carefully where the tracks are the thickest a nest will generally be found. Sometimes the birds will build among the small rocks where the tracks cannot be seen and here the eggs are safe as their coloration protects them, for they look exactly like small rocks. The nests are, as a rule, found by a mark of some kind, a bone of some animal, a small dead weed, or a bit of drift-wood and are slight depressions in the sand. Some are completely lined with broken shells or fish bones with the eggs pointed towards the center, very close together and about half buried in the nest lining. A pair of birds will build several nests during a season and only use one; for I have found nests all fixed up and completely surrounded with tracks. This I noticed especially in 1901 for I found about three times as many unused nests as used ones. During this season I visited Ballona about three times a week and gave the birds careful study.—W. LEE CHAMBERS, *Santa Monica, California.*

NOTES AND NEWS

On November 8, the following amendment to Article IX of the Constitution of California is to be voted upon by the people. "Section 12. All property now or hereafter belonging to the 'California Academy of Sciences,' an institution for the advancement of science and maintenance of a free museum, and chiefly endowed by the late James Lick, and incorporated under the laws of the State of California, January sixteenth, eighteen hundred and seventy-one, having its buildings located in the city and county of San Francisco, shall be exempt from taxation. The trustees of said institution must annually report their proceedings and financial accounts to the governor. The legislature may modify, suspend, and revive at will the exemption from taxation herein given."

The California Academy of Sciences is a museum similar in scope to the United States National Museum in Washington and the American Museum in New York City; it maintains collections for popular instruction, which are open six days of the week and are free to the public; it maintains scientific collections and a scientific library, which are free to students; it publishes scientific papers without pecuniary profit; it sends out expeditions in search of new facts and new specimens; it gives free public lectures every month in the year; its staff answers inquiries relating to scientific matters, free of charge. The property of the academy consists chiefly of a building, fronting on Market Street, San Francisco, rented for stores and offices, and a building back of this front building used for the library and the collections of animals, plants, and minerals. The income from the front building supports the back building; without this income the work of the Academy could not be carried on. The Academy pays over \$7000 a year in taxes; of this amount less than one-third goes to the state at large, the rest to the city and county of San Francisco. This tax impoverishes the Academy, the balance of its income being insufficient to do its work. Similar institutions in other states, such as the Academy of Natural Sciences of Philadelphia and the Boston Society of Natural History are exempt from taxation. The attention of all Cooper Club members, who may reside in California, is called to the amendment. Everyone who is interested in the advancement of science in California should do his or her little toward influencing a favorable vote. It is suggested that those who receive printed

matter concerning this amendment, post the same near the polling place or on their post-office bulletin board a few days before election.

California Audubon Society

The California Audubon Society was organized at Pasadena on March 25, 1904. The officers elected to serve during the first year are: President, Dr. Garrett Newkirk; Vice-president, Mrs. Elizabeth Grinnell; Secretary and Treasurer, W. Scott Way. A local society was soon afterwards formed at Garvanza, with Mrs. Harriet W. Myers as President, and Miss Foneta Chase Secretary, and another at El Monte, with M. F. Quinn as President and Miss Lula Mays Secretary. Junior sections for persons under eighteen years of age are connected with these societies, each having its local secretary.

The Ladies Songbird Protective Association, Mrs. J. C. McCracken, President, of Santa Cruz county, has affiliated with the Audubon Societies giving a total membership at the last report of about six hundred.

It is intended by those having special interest in the movement that the local societies shall federate as a State society when several local branches now forming have completed their organization. Mr. Charles Keeler is interested in the work and has informed the Pasadena society of his intention to take an active interest in the organization of a local society at Berkeley.

The purposes of the Audubon Society, as set forth in the by-laws are: (1) To discourage the purchase or use of the feathers of wild birds for ornamentation. (2) To discourage the destruction of birds and their eggs, and to aid in the enforcement of the laws made for the protection of the same. (3) To spread information of the value of birds in their relation to agriculture. (4) To aid in establishing Bird Day exercises in the schools. (5) To distribute educational literature in the interest of bird protection, and to encourage the study of Natural History. (6) To assist in the protection of game and game birds by enforcing the laws provided therefor, and, in co-operation with game protective associations, in efforts to obtain additional game protective legislation.

The society is making a special effort in the interest of the mourning dove, the destruction of which, under existing laws, forebodes the early extermination of the species. The legislature will be urged to take this bird from the game list and protect it at all seasons. In efforts to obtain continuous protection for the dove and a general law for protection of wild birds other than game birds, barring harmful species. A number of Granges and other organizations of farmers and fruit-growers have promised the society their influence and co-operation.

The society has already secured the enactment of local ordinances protecting some thirty species of non-game birds and prohibiting all shooting on the public road in both Los Angeles and Santa Cruz counties, and also, in the latter county, an ordinance protecting the mourning dove at all times until 1909.

Several thousand cards and posters containing summary of the bird and game laws have been issued and circulated by the Pasadena society, and 2000 leaflets in the interest of dove protection are now being distributed throughout the State. Several thousand of the educational leaflets issued by the National Committee of Audubon Societies have also been circulated, chiefly among farmers and in the schools.

W. SCOTT WAY, Secretary.

AMERICAN ASSOCIATION OF CAMERA HUNTERS.—A national association of wild animal photographers is being formed for the purpose of promoting the new form of sport popularly known as "camera hunting." The main object of this organization will be to bring about the renunciation of the gun for the camera; and it is hoped that it will be an effective means of discouraging the unnecessary slaughter of the birds and other wild animals of America. All interested should communicate with Le Roy Melville Tufts, "Thrushwood," Farmington, Maine.

During the week beginning September 4, an extensive forest fire has been raging in the Santa Cruz mountains, California. The State Park, known as the Big Basin, containing probably the finest stand of redwoods (*Sequoia sempervirens*), has been threatened with total destruction, but press despatches state that some of it will be saved. It is impossible at present to ascertain the amount of damage done. Dr. Ralph Arnold, a club member, viewed a portion of the fire from a high ridge, and tells us that the upper Pescadero was like a roaring furnace, the redwoods going along with the drier underbrush. In this connection it is well to note what a destruction of animal life such a fire entails, although this is one of the least serious aspects of the matter. The forest of the Big Basin was one of surpassing grandeur and beauty, and if it is destroyed, the loss is national, as well as local.

Now that the collecting and outing season is about over, members should send in their notes while experiences are fresh in mind. The more that members co-operate the more readable and representative will be the magazine.

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NOTES AND NEWS

(Continued)

In THE CONDOR for May, 1901, Messrs. Joseph and J. W. Mailliard presented some excellent suggestions for the establishment of an information column in this magazine. The proposition met with the hearty endorsement of the editor, but for some reason did not gain the cooperation which it deserved. The scheme was so well worthy of the support of all club members that we have deemed it desirable to bring the matter again to the attention of our readers. There are doubtless many who desire information on some especial subject, or to fill out gaps in their observations, and are not able to find aid in their reference libraries. We invite everyone to send in their questions, which will be published, and probably answers to the majority will be forthcoming.

In this connection it seems well to publish the names of a Special Information Committee which has been appointed, by the president, especially to aid beginners in bird-study. This committee constitutes a sort of Advisory Council and is willing, in so far as it is able, to aid anyone who may wish to undertake bird study, or who may desire some special information. The West is divided into districts with a committeeman to each. If you are uncertain to whom to write, send the question to the chairman who will refer it to the proper person. A stamped and addressed envelope should always be included for reply.

COOPER CLUB'S ADVISORY COMMITTEE.

Walter K. Fisher, Chairman, Palo Alto, Cal.; Northern California.

W. W. Price, Alta, Placer Co., Cal.; Interior valleys and Sierra Nevada Mts.

W. Otto Emerson, Haywards, Cal., San Francisco Bay region.

Joseph Grinnell, Pasadena, Cal.; Pacific slope of Southern California.

Herbert Brown, Yuma, Arizona; Arizona and southeastern California.

William L. Finley, 264 Madison St., Portland, Ore.; Oregon.

J. H. Bowles, 401 South G. St., Tacoma, Wash.; Washington.

Mr. M. P. Anderson is now collecting in Japan for the British Museum. He expects to be there about a year.

Mr. W. Scott Way, Secretary of the California Audubon Society, gave an address at the University Farmers' Institute, Long Beach, August 27, on the "Passing of the Mourning Dove."

Mr. Lyman Belding was recently at Deer Park, Placer county.

Messrs. William R. Dudley, E. G. Dudley, and W. K. Fisher made a hasty trip into the country south of Kings River canyon during the last two weeks of August. The trail was taken at Millwood, Fresno Co. Some work was done in the extensive sequoia cuttings of the Converse Basin, where a deplorably wasteful system of lumbering is being carried on.

Mr. Joseph Grinnell spent the latter part of August and the first two weeks of September collecting in the Santa Cruz mountains and in the vicinity of Palo Alto.

We are able to announce, unofficially, that the third volume of Mr. Ridgway's "Birds of North and Middle America" will soon be ready for distribution, and that the manuscript of the fourth volume is nearly completed.

Rev. S. H. Goodwin has become a staff contributor in economic ornithology for the *Deseret Farmer*, of Provo, Utah.

One of our club members, now in the far east, Richard C. McGregor, writes us very vividly of his collecting experiences there. Judging from his valuable papers which are issued regularly from the Philippine Museum, Mr. McGregor has not given up in the least to the evervating influences of that tropical climate. He says: "I hope to get away on another good trip before long. The highlands of Mindoro need more attention and there are plenty of other good points to visit. Luzon itself has plenty of virgin ground, but I am not yet anxious to be collected by a lot of Ladrone who are still making things interesting at several points."

A recent issue of the *Sierra Club Bulletin* (Vol. V, No. 2) contains an entertaining article by our fellow member, Dr. William Frederic Bade. He relates his experiences with "The Water Ouzel at Home" on the headwaters of the Kern River in the southern Sierras. Four excellent photographs supplement the already vivid word-portrayal.

Mr. R. E. Snodgrass spent the summer traveling through the eastern states.

Mr. H. W. Henshaw, who has been residing in Hilo, Hawaii, for the past ten years is stopping temporarily at Fruitvale, California.

Mr. E. W. Nelson and Dr. C. Hart Merriam are expected to arrive on the Coast about September 15.

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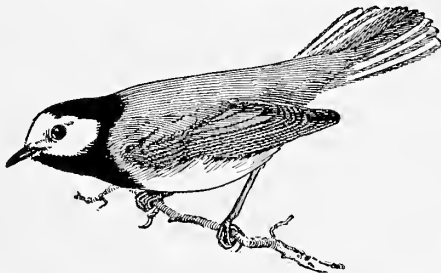
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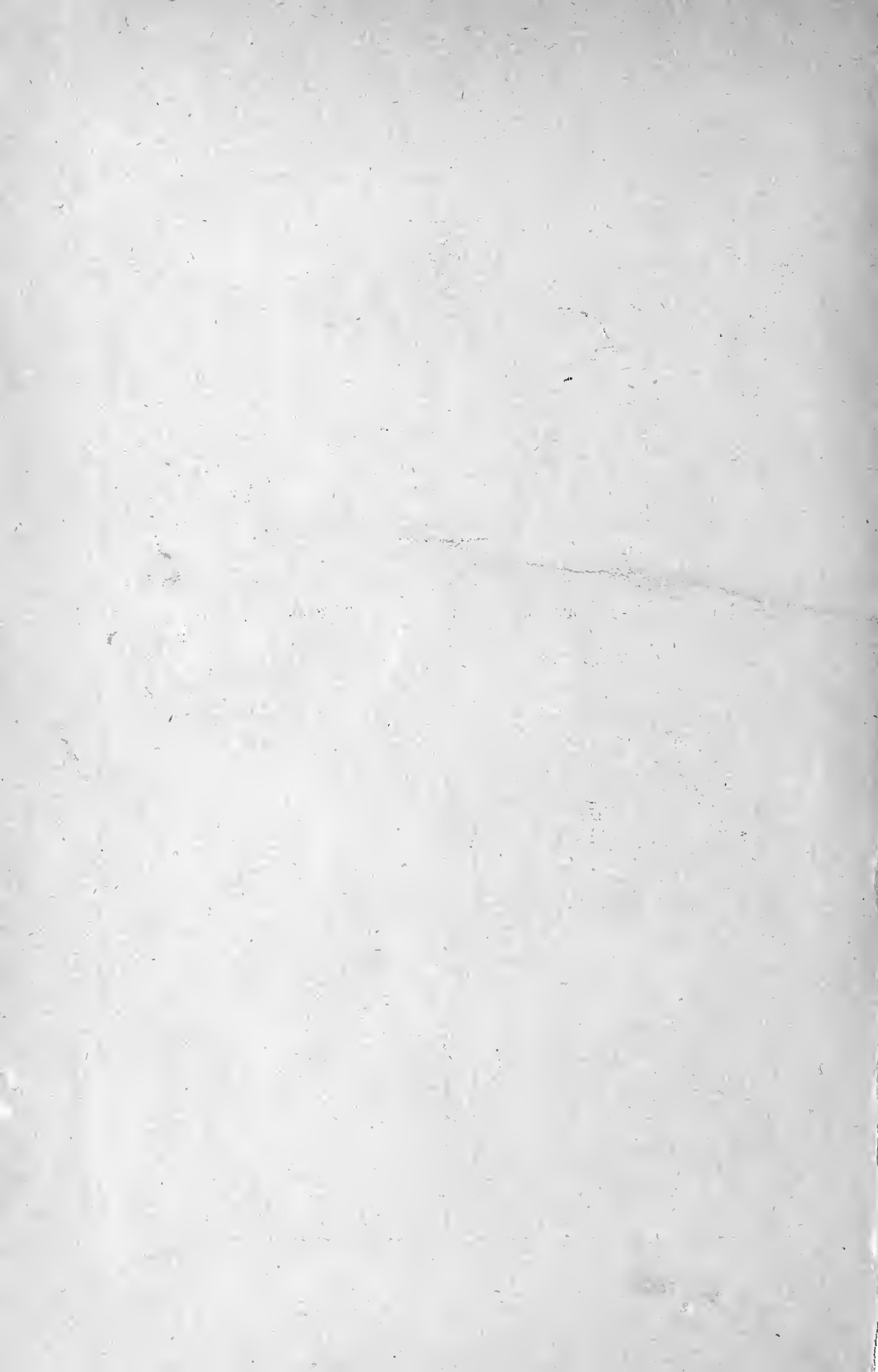
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Birds

THE CONDOR

A Magazine of Western
Ornithology



Volume VI

November-December, 1904

Number 6



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A LAYSAN ALBATROSS FEEDING ITS YOUNG

Photographed by Walter K. Fisher

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume VI

November-December, 1904

Number 6

The Black-headed Grosbeak

(*Zamelodia melanocephala*)

BY WILLIAM LOVELL FINLEY

ILLUSTRATED BY HERMAN T. BOHLMAN

I SHALL always remember the black-headed grosbeak because it is one of the birds of my childhood. As long ago as I can remember, I watched for him in the mulberry trees and about the elderberry bushes when the fruit was ripe. I distinguished him from all others by his high-pitched, "quit! quit!" long before I knew his name. He is a common resident of California. When I came to Oregon, it was some time before I found him. Here he seldom if ever comes about the city, but he likes a quiet nook out in the hills, a place where the maples and alders form a thicket in the creek bottom.

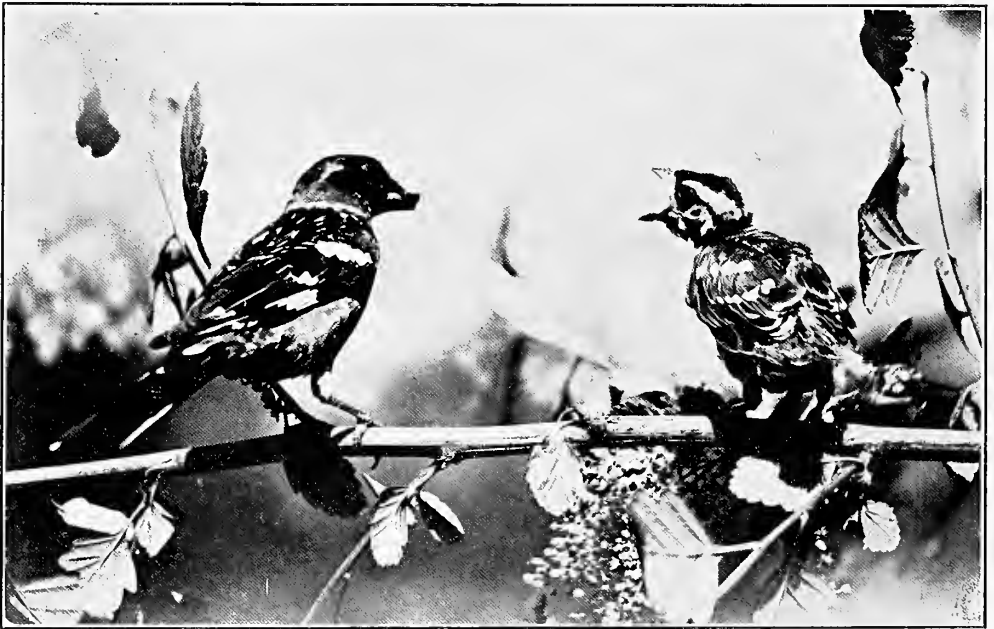


For several years we have watched a pair of grosbeaks that spent their summer in a little thicket along Fulton Creek. I have no doubt the same pair has returned to the old nesting place for the last three or four years. It seems I can almost recognize the notes of their song. If our ears were only tuned to the music of the birds could we not recognize them as we recognize our old friends?

Last year I found three spotted eggs in a loosely-made nest that was placed in the dog-wood. This year the site was scarcely twenty feet from the old home. They came nearer the ground and placed the thin frame-work of their home be-

tween the two upright forks of an arrow-wood bush. We had never bothered them very much with the camera, but when they put their home right down within four feet and a half of the ground, it looked to me as if they wanted some pictures taken. It was too good a chance for us to miss.

When I waded through the ferns and pressed aside the bushes, the nest was full to the brim. Above the rim I could see the white fluff wavering in a breath of air. I stole up and looked in. The three bantlings were sound asleep. Neither parent happened to be near. I crawled back and hid well down in the bushes twelve feet away. The father came in as silent as a shadow and rested on the nest's edge. He was a beauty. He had a shiny black head, black wings crossed with bars of white, and the rich red-brown of his breast shaded into lemon-yellow toward the tail. He crammed something in each wide open mouth. The mother was right at his heels. She treated each bobbing head in the same way. Then,



MALE GROSBEAK ABOUT TO FEED YOUNG

with head cocked on the side she looked each youngster over, turning him gently with her head.

The weather was warm and it seemed to me the young grosbeaks grew almost fast enough to rival a toad-stool. Sunshine makes a big difference. These little fellows got plenty to eat and were where the sun filtered through the leaves and kept them warm. The young thrushes across the gully were in a dark spot. They got as much food but they rarely got a glint of the sun. They didn't grow as much in a week as the grosbeak babies did in three days.

I liked to sit and watch the brilliant male. He perched on the top branches of the fir and stretched his wings till you could see their lemon lining. He preened his tail to show the hidden spots of white. What roundelays he whistled "Whit-te-o! Whit-te-o! Reet!" Early in the morning he showed the quality of his singing. Later in the day it often lost finish. The notes sounded hard to get out,

or as if he were practising, just running over the keys of an air that hung dim in his memory. But it was pleasing to hear him practise; the atmosphere was too lazy to call for perfect execution.

The morning of July sixth, the three young birds left the nest, following their parents out into the limbs of the surrounding bushes. They were not able to fly more than a few feet but they knew how to perch and call for food. I never heard a more enticing dinner song. It was such a sweet, musical "tour-a-lee."

The parents fed their bantlings as much on berries as on worms and insects. Once I saw the father distribute a whole mouthful of green measuring worms. The next time he had visited a garden down the hillside, for he brought one raspberry in his bill and coughed up three more. Both birds soon got over their mad anxiety every time we looked at the youngsters. In fact, they soon seemed willing enough



FEMALE GROSBEAK AT NEST

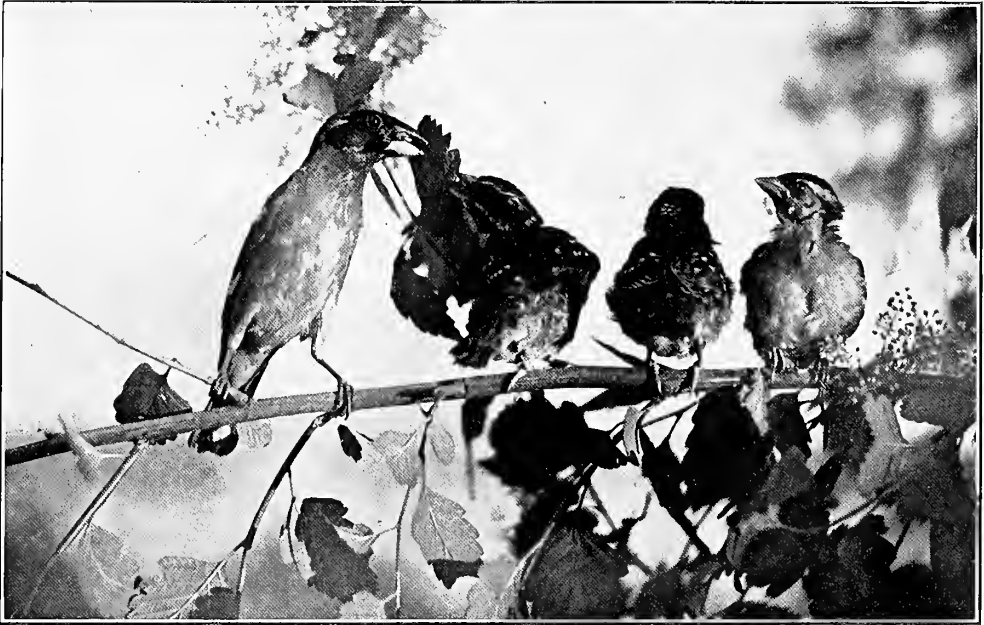
to have the birdlings share the bits from our own lunch.

We spent the next two days watching and photographing. It took all the next morning, however, to find the three bantlings. The mother had enticed one down the creek to some hazel bushes. I watched her for two hours before I heard the soft whistle of the youngster. He perched on my finger and I brought him back to the nest. Another was found down in the thimbleberry bushes. This one, with the third up in the maple saplings over the nest, seemed to be in the keeping of the father.

After watching them all day we put them in a little isolated clump of bushes late in the afternoon, and when we went early the next morning they were still there but perched well up on the top limbs. The parents had become quite tame, and paid little attention either to the camera or to us. By the fourth day, how-

ever, the young grosbeaks were beyond the reach of the camera. Their wings had developed strength and they were beginning to hunt for themselves.

Portland, Oregon.



MALE GROSBEAK AND THREE YOUNG

Extracts from Some Montana Note-books, 1904

BY P. M. SILLOWAY

WILLOW Thicket, Spring Creek, Lewistown, Mont. May 7.—A most distressing event occurred today in our usually quiet little grove, an event that occurs annually about this time, though, and tonight I am mourning the loss of embryonic offspring. It was a magnificent setting, although it was the traditional unlucky number thirteen. I might have known, experienced old magpie that I am, it would turn out unlucky for me, and I should have stopped at the number twelve, as I did last year; but now it seems that my treasured thirteen is to rest on a cottony bed beside my lost twelve of last year. Today that same voracious egg-hog, genus *Homo*, called Silloway, came wandering through the thicket. I was sitting quietly in my earthen cot, meditating on the numerous cares awaiting me as the proud mother of thirteen infants, when a rude shock at base of the small haw I had chosen for my home site caused me to flit from the nest. The *Homo* collector hurried up to my snug tenement, anchored himself among the many thorns which beset the surrounding branches, adjusted a cigar box in front of him, and began to remove one by one my precious clutch. There is no thorn without its rose, however, and even in my distress it was amusing to watch him try to pack thirteen eggs with cotton intended for only nine eggs, in a space intended for only nine eggs. He stretched every bit of cotton to its utmost capacity, poked unwrapped eggs into cavities between wrapped eggs, and finally worked his way down in an apparent condition of hilarious bewilderment. Here-

after I shall not try to exceed the bounds of magpie propriety by laying more than the five to nine allowed me by the books.

Morrison Ranch, Lewistown, Mont., May 25.—Strange that I cannot overcome being so startled at the report of a little gun! It would seem that a matronly Bartramian sandpiper of several seasons' experience should be accustomed to such a noise, but to this hour I am unable to control myself under such circumstances, and at last it has been my undoing. I was sitting snugly in my nest in a clump of grass which I found ample for my accommodation, apparently safe against the prying eyes of any Homo collector. Safe, I say, because that nightmare of sitting birds in this locality, Silloway, had been prowling around my nest several times, on chase of long-billed curlews I believe, and though he had passed within twenty feet of me, he had not spied out my crouching form in the herbage. At length, though, when I knew he was at a safe distance from my home, he fired a little gun at a longspur that was hovering near my nest. At the report I fluttered from the grass tuft, alighted some sixty feet away, and immediately realizing the magnitude of my mistake, attempted to elude him by "teetering" and waving my wings up and down. He did not give the least heed to my demonstrations, however, but went straightway to my turf, peered into the open top, and saw my four pointed treasures in their grassy bed. "A great find," he exclaimed. "Who would have thought that I should find my first set of Bartramian sandpiper in far away Montana, when I have searched hours and hours for it in old Illinois." Well, if it gave him so much pleasure to find the nest, he is welcome to the eggs. I can hunt another grass tuft, lay another set, and rear my brood in peace while he goes "hiking" after eggs at Flathead.

Borgh Grove, Lewistown, Mont., June 7.—My voice is always the cause of my undoing. It is well known that a red-naped sapsucker is not gifted with musical ability worth mentioning, but I am sure that my voice is pleasing enough to me and to my better half, and hence I am prone to exercise it much when the joys of domestic bliss impel me. When I flew screaming from our cozy cavity in our stout cottonwood this afternoon, I little dreamed that that bane of nesting birds in this region, Silloway, was looking around in the grove. He immediately appeared on the scene, and with no delay he located the entrance to the cavity. It had been made low, only twelve feet from the ground, and though I understand he is no climber, he shinned up to the place. I do not think he had come out for sapsucker eggs, though, for he seemed quite puzzled how to proceed in examining our newly-made establishment. It was in a live tree, you understand, for we sapsuckers prefer such for our nesting sites, the books say. He tried to work his way into the cavity, hacked at the entrance with his pocket knife, and at length appeared to give it up, for he slid down the trunk and went away. I hastened back to the nest and settled upon the six white eggs. Soon a rude shock aroused me, and upon flying out, screaming lustily as usual, I found the egg-hog armed with a big axe he had borrowed at a nearby house. There is no trying to evade an egg-crank, anyway, and though scolding angrily while he chopped open the cavity, I was powerless to prevent the despoiling of the nest. One after another the six handsome rosy-fresh eggs were rolled in cotton, placed carefully in a baking-powder box, and thus disappeared from my sight. "My first set of red-naped sapsucker," he murmured, "and six eggs too, regular beauties." I am glad they were quite fresh, for I had not become so "sot" on them as I should if it had been a week or two later. Even this evening I noticed a nice site for a new nest, and with only two or three days' trouble we can have as cozy a cavity as before. It doesn't pay to cry over lost eggs.

Crowley Pasture, Lewistown, Mont., June 14.—I have always chided Bob for singing so persistently near our nest, and now he has brought ruin upon us by his merry jingles. Like Adam of old, though, he insists that I alone am to blame. Bob always was an ardent suitor, however, and now that our home has been despoiled, he has an opportunity to retune his voice and enjoy another period of bobolink honeymoon, while I am establishing a new home in another part of the pasture. There was a certain fence post whereon Bob was accustomed to sing whenever I was in my nest, and it seems that one Silloway, a regular crank robber of birds' nests, became suspicious regarding the frequent singing of Bob at that particular place. At any rate, the collector kept watching that little corner of swampy meadow, and frequently searched through it for a nest of bobolink. Today he entered the little corner when I was on my nest, and all the while Bob sat on that fence post and sang like the silly lover that he is, until from sheer ecstasy I fluttered from the tuft. The books say, I am told, that I always leave my nest by stealth and rise many feet away from it; but it is a failing of the books to interpret individual actions as general habits. Bobolinks do act thus on occasions, probably when suspecting danger at hand, but really I did not know that the arch-enemy was near, and somehow I fluttered right out of the tuft. He went straight to the spot, and looking down among the open grass blades, saw my three eggs with two that Mrs. Cowbird had intruded upon me. "Thanks, Mrs. Bobolink," he cried, "thanks for small favors I had rather my first set of bobolink had been larger. Why did you stop with three eggs, anyway, when the books credit you with five to seven?" And come to think of it, why did I stop with three? I suppose that in making room for Mrs. Cowbird's imposition, I found our snug cot comfortably filled and so contented myself with the smaller number. If he looks over the other portion of the meadow, he will find several nests of seven, without cowbird's, and I will stake my reputation that he will find them before many hours. (This prediction of Mrs. Bobolink was verified before many days. P. M. S.)

Crowley Swamp, Lewistown, Mont., June 17.—Why on earth does a grown-up man want to grope around in a cat-tail swamp, wading to his middle in mud and water, and frightening us poor soras half to death? Why does he? I used to wonder at it, but tonight I can answer the question from bitter experience. He wants our eggs, of course. Now I have nested in this little pond for the past four years, and have seen that egg-crank Silloway wander around here each season, but some way or another he never seemed to think of entering my chosen domain. Today, however, when he went past he eyed the rushes as if he intended to invade them, but passed on as usual, and I settled myself to a forenoon of enjoyment in my snug basket of rushes. At length I heard a crashing and splashing which came nearer and nearer, and before I was aware of it the nest robber was brushing against my grass tuft. Of course I flew out with a scream of fright, and in a moment he was gloating over my fourteen eggs arranged so nicely in two layers. "Another good find, and a good record made," uttered the collector, "for the sora nests not only in Montana but in Fergus county and within sight of Lewistown." Thus I lost my eggs. I'll warrant me that he had a hard time preparing those eggs for his cabinet, for the last one had been laid some days, and I even expected some of them to begin to hatch tomorrow. Well, if he enjoys it, let him take them. I'll lay another lot. It will only take me two weeks. (The eggs were found to be a trifle incubated, as Mrs. Sora leads us to infer, but they made a nice set at any rate. P. M. S.)

Lewistown, Montana.

Albatross Pictures

BY WALTER K. FISHER

ILLUSTRATED WITH PHOTOGRAPHS BY THE AUTHOR

I have ventured to reprint the illustrations of my article in the January, 1904, *Auk*, "On the Habits of the Laysan Albatross," hoping that the pictures will be of interest to those readers of THE CONDOR who do not regularly see our standard journal of ornithology. The following brief synopsis of the pictures is not intended to be an exposition of the habits of that most entertaining bird, *Diomedea immutabilis*, but rather a scenario, as it were, of its somewhat theatrical



FIG. 1. ROOKERY OF LAYSAN ALBATROSSES

performances. Something has already been said concerning the general aspects of the bird life on Laysan, in the May and July numbers of THE CONDOR.

The first picture shows a portion of one of the larger rookeries of *Diomedea immutabilis*, near the southern end of the islet. Here, in years gone by, Japanese laborers have cleared away all the loose phosphate rock leaving a level area many acres in extent. The albatrosses have entirely preempted the site. In the distance may be discerned the sandy slope of the island, corresponding to the sides of a meat platter, which the atoll greatly resembles in general form. In the foreground is seen loose phosphate rock and one of the characteristic bushes of the island, *Chenopodium sandwicheum*, a sort of pigweed. Figure 2 is one of the young albatrosses in the foreground of 1. Most of the birds in sight are young, since the photograph was taken in the morning before the adults had returned from the

^aWith the exception of the frontispiece these illustrations are from plates kindly loaned me by Dr. J. A. Allen and Mr. Frank M. Chapman, editors of THE AUK.



FIG. 2. PORTRAIT OF YOUNG LAYSAN ALBATROSS

fishing grounds. Note the characteristic position of the young bird, teetering back on its heels.

The gonies are sprinkled rather thickly all over the island, on the windy slope facing the sea, on the inner sandy slopes among the tall grass, and around the



FIG. 3. NEAR THE LAGOON, LAYSAN



FIG. 4. A CORNER IN ONE OF THE COLONIES



FIG. 5. AMONG THE LAYSAN ALBATROSSES

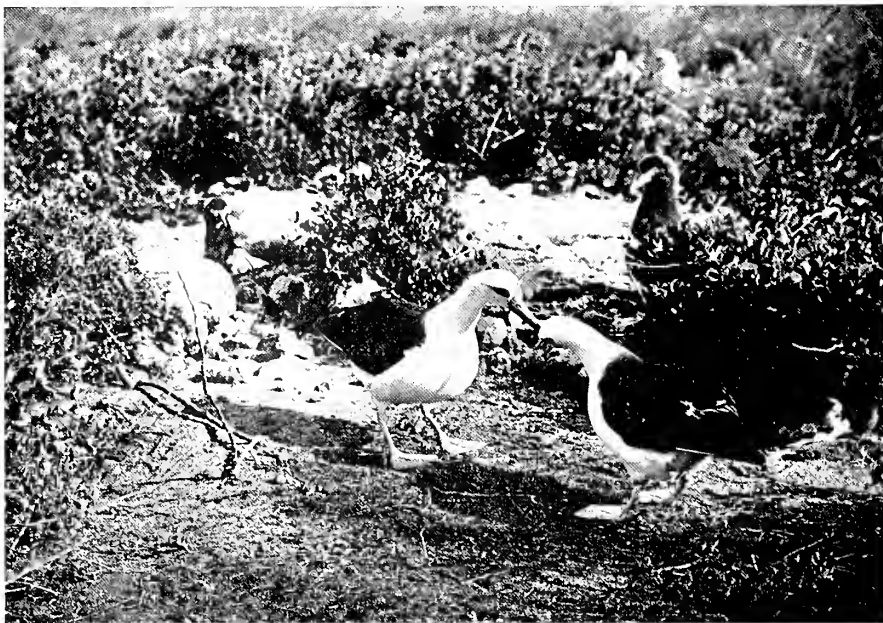


FIG. 6. FIRST STAGE IN DANCE. FENCING

central lagoon in the level portion of the islet. Figure 3 is a small section of the great colony which encircles the lagoon. This photograph was taken in the afternoon, practically all of the adults having returned. To the left will be seen a



FIG. 7. SECOND STEP IN DANCE

youngster sitting in one of the bowl-like hollows which serve the albatrosses as nests. Two others, unoccupied, will be seen directly over the nestling's head. The young bird near the center, middle distance, also occupies a 'nest' and belongs to the two old birds standing near. Figure 4 is a corner in one of the colonies near a little brackish pond. The young bird in the foreground is practising its wings and is just beginning to stand upright. This picture was taken soon after the young had been fed, about ten in the morning. Both old and young rest at this time, and the adults frequently go to sleep with the bill and one eye hidden by the wing.

Figure 5 demonstrates the remarkable indifference exhibited by the birds to human presence. The writer is making some small noise to attract the bird's attention. At the left two birds are about to commence a dance. Note the absolute fearlessness of the young as shown by their pose. It was near this spot that an



FIG. 8. LAST STAGE IN DANCE—ONE SINGING, THE OTHER SNAPPING BEAK

old albatross became greatly interested in the bright aluminum top of my tripod, which it carefully examined from all sides. Finally it tested the cap with its beak, and appeared much surprised, yet pleased, with the jingling sound, repeating the experiment until satisfied.

The gonies indulge in a curious dance, which probably originated during the courting season, but which now seems to be practised all through the year for the sake of amusement. That the habit is very old and deep-seated is proved by the fact that such widely different species as *Diomedea nigripes* (Laysan) and *D. irrorata* (Galapagos Is.) likewise indulge in the diversion. Figures 6, 7, 8 and 9 are successive steps in the performance. Two birds approach one another, bowing profoundly and stepping heavily. They swagger about each other nodding and courtesying solemnly, then suddenly begin to fence a little, crossing bills and

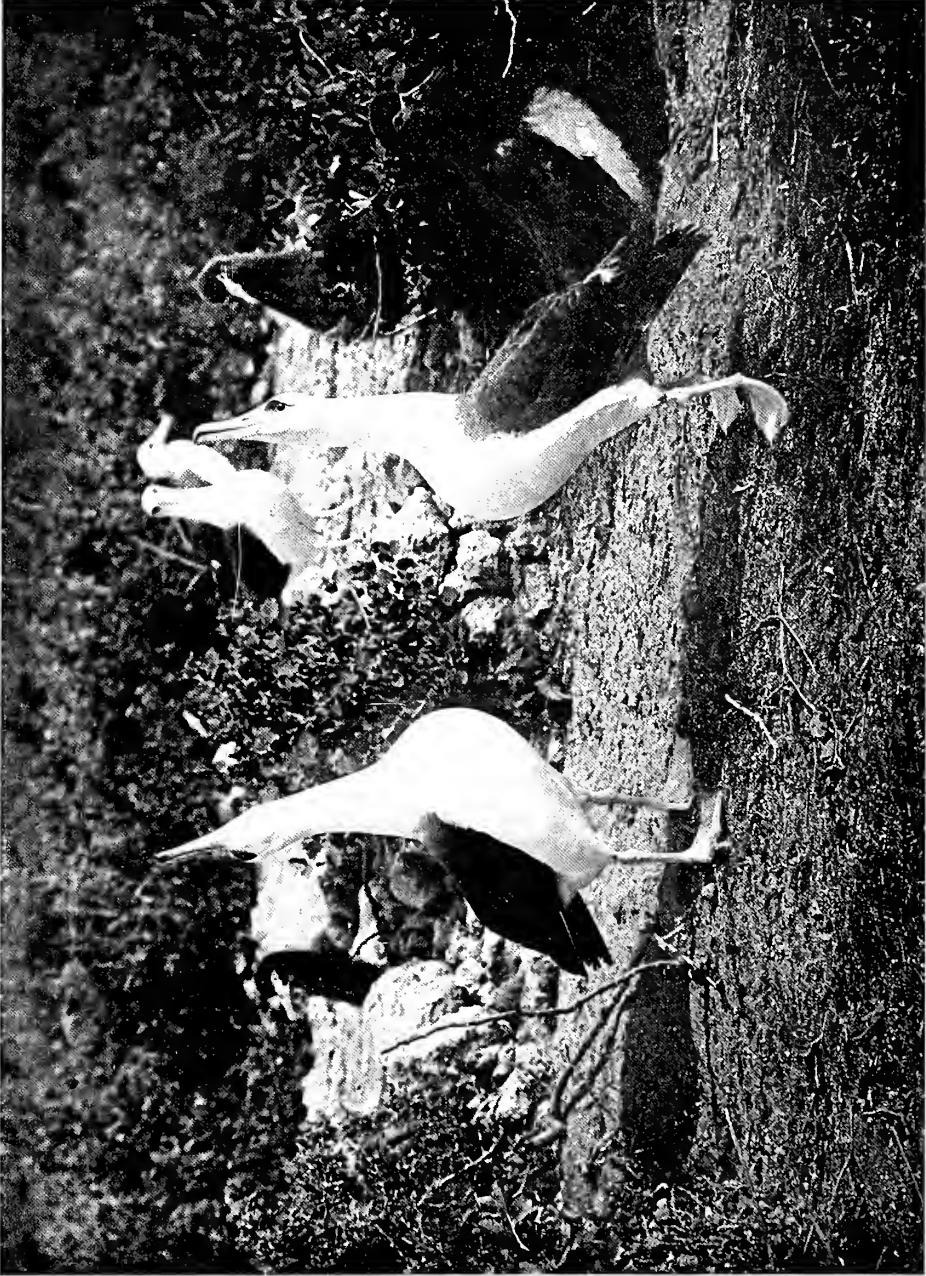


FIG. 9. FINALE OF ALBATROSS DANCE THE DUET



FIG. 10. YOUNG ALBATROSS ASKING FOR FOOD

whetting them together, sometimes with a whistling sound, meanwhile pecking and dropping stiff little bows. (Fig. 6.) All at once one lifts its closed wing and nibbles at the feathers beneath, or rarely, if in a hurry, quickly turns its head.



FIG. 11. OLD BIRD STARTING TO DISGORGE

The partner during this short performance assumes a statuesque pose and either looks mechanically from side to side or snaps its bill loudly a few times. (Fig. 7.) Then the first bird (to the left of the picture) bows once and pointing its head and beak straight upward, rises on its toes, puffs out its breast, and utters a prolonged nasal *Ah-h-h-h* with a rapidly rising inflection, and with a distinctly 'anserine' and 'bovine' quality, quite difficult to describe. While this song is being uttered, the companion loudly and rapidly snaps its bill. (Fig. 8.) Sometimes both birds raise their heads in the air, and either one or both utter the curious groan. (Fig. 9.) Figures 6, 7, and 9 are of the same pair of birds. Three sometimes engage in the dance, one dividing its attention between two until it tires and finally deserts one of the partners, to devote its entire attention to the other. If a person bows to the birds while they are engaged in "cake-walking" or soon after they have finished, they will usually bow in return and walk around in a puzzled sort of way. It would seem that whenever they behold anything bowing, a sort of reflex stimulus is set up in their own bodies.



DIOMEDEA NIGRIPES PUNISHING STRANGE YOUNG

The gonies depend entirely upon squids for food. That the number of these cephalopods in the surrounding waters must be very great is suggested by the fact that the approximate million of albatrosses on the island consume, allowing from one-half to one and one-half pounds of food a day to each individual, between 250 and 600 tons daily. As the squids are nocturnal or crepuscular in habits the albatrosses fish after dark, most probably from just preceding dawn till light. They return to the island, from long distances, and feed the young anytime during the early forenoon. The old bird alights near the impatient and greedy nestling, who immediately takes the initiative by waddling up and pecking or biting gently at her beak. (Fig. 10.) She now stands up, and with head lowered and wings held loosely at the sides regurgitates a bolus of squids and oil. (Fig. 11.) Just as she opens her beak, the young one who has been standing ready inserts its own *crosswise*, and skillfully catches every morsel, which it bolts with evident relish. (Frontispiece.)

Albatrosses have a habit of maltreating their neighbors' children, particularly just after they have fed their own young and while the latter are still annoying them by petitioning for more. The old bird having repeated the process shown in the illustrations some eight or ten times finds herself pumped quite empty. She now pecks back at her nestling, or runs off and trounces some neighboring young, provided the parents are absent. Figure 12 shows a black-footed albatross (*Diomedea nigripes*), a species which lives only on the beaches near the water, wooling and mauling a nestling. Its own young is seen at a little distance.

The albatrosses pursue their varied occupations on Laysan for ten months of each year, and during September and October spread far and wide over the north Pacific for a short vacation.

Stanford University, California.

An Early Notice of Philippine Birds

BY RICHARD C. MCGREGOR

IN the library of the Ethnological Survey in Manila is a curious old set of quarto volumes containing "A Collection of Voyages and Travels"^a to all parts of the world, including accounts of shipwrecks, fights with pirates, and other adventures by land and sea. In the fourth volume is given the narrative of Dr. John Careri,^b "A Doctor of the Civil Law, well provided with Mony to make him acceptable in all Parts," who through crosses at home was led to make a journey round the world. He left Italy, his native land, in 1693 and returned in 1699. His quaint observations on all manner of things in the countries he visited are entertaining if of no more value. He spent some time in the Philippines during the years 1696 and '97. His account of the birds seems to be worth reproduction as containing very early notices of several well known species. The account of the birds begins on page 454 as follows:

"Among the Birds of the Islands the *Tavon*^c deserves to have special Mention

^aA | Collection | of | Voyages and Travels, | Some now first Printed from *Original* | *Manuscripts*, | Others Translated out of Foreign Languages, and now | first published in *English*. | To which are added some few that have formerly appeared in *English*, but do now for their Excellency | and Scarceness deserve to be Reprinted, [rule] In four Volumes, [rule] With a General PREFACE, giving an Account of the NAVIGATION, from its first Beginning to the Perfection it is now in, &c. [rule] The whole Illustrated with a great Number of Useful Maps and Cuts, all Engraven on Copper. [rule] The Authors contain'd in this Volume, see over Leaf. [rule] Vol. IV. [rule] London: | Printed by H. C. for A. W. N. SHAM and JOHN CHURCHILL at | the *Black-Swan* in *Pater-noster-Row*, MDCCIV. Although projected in four volumes there were added four more making eight in the set examined. The title pages differ in some of the later volumes.

^bA Voyage round the World, by Dr. *John Francis Gemelli Careri*, containing the most remarkable Things in *Turkey, Persia, India, China, the Philippine-Islands and New Spain*. Translated from the *Italian*. (pp. 1-605) It is not stated where this was first published. Perhaps it was never printed in the original.

^c*Megapodius cumingi* Dillwyn. Of the family Megapodiidae or mound-builders, including 7 genera all confined to the Oriental and Australian Regions. The genus *Megapodius*, according to Sharpe, contains 17 species, distributed from the Marianas to Australia. Six species are found in New Guinea, but five of these range to other islands. *M. cumingi* is the only species recognized in the Philippines where it occurs on nearly all the islands. Both from the name given and the description of the peculiar nesting habits there is no doubt that our author refers to this bird. The bird is very generally called "Tabon," but "v" and "b" being more or less interchangeable in the native dialects will account for his calling it "Tavon." It has nothing to do with a "Sea Fowl" as we understand that term. It is plainly colored and might be described as black. The neck and legs, however, are not long tho it does have very heavy feet and long strong claws. The description of the nesting habits is accurate enough but the nests are by no means always near the water and it is doubtful if anything short of a tidal wave would trouble them. The wonderful embryology, as described, it is needless to say is a pure fabrication. The tabon probably nests throughout the year. I have taken eggs in May and in October.

made of it, as well for its Quality, as because it is not known whether there are any of the Species elsewhere. It is a Sea Fowl and Black. As to its size it is less than a Hen but has a long Neck and Legs, and lays its Eggs in a light Sandy Ground. These Eggs are wonderful; for besides their being as large as a Gooses, when Boil'd there is very little White found in them, but all Yolk, yet not so well tasted as a Hens. The strangeness of them is, that contrary to all others, when the chickens are hatch'd the Yolk appears whole and sweet as it was at first, with the Chickens Beak fast, and without any White. By this it appears that it is not always true, that the generative Virtue of the Seed makes the Yolk Fruitful, and that in this Case the Yolk serves for the same use as *Placenta Uterina* does to an Infant.

"The Chickens roasted before they are fledg'd prove as good as the best Pigeons. The *Spaniards* very often eat the Chicken and the Yolk of the Egg together in the same Dish. The old bird is eaten by the *Indians*, but is tough. The Hen lays about 40 or 50 Eggs in a Trench near the Sea and covers them with Sand. For this reason it is call'd *Taxon*, which in the language of the Islands signifies to cover with Earth. There the heat of the Sand hatches them, and the Chickens feed on the Yolk, till they gather Strength to break the Shell, throw up the Sand and get out. Then the Hen which keeps about the neighboring Trees, runs about them making a Noise, and the young ones hearing her labor the harder to get out to her. This is no less wonderful than what the Scripture says of the Ostriches Eggs, *Job* 39. We see the disposition of Providence, in giving this Bird that Instinct to bury its Eggs so deep, and the Chicken such long Claws, as to make its way. They make nests in *March, April* and *May*, like the *Halcions* the *Antients* make mention of; because at that time the Sea is Calmest, and the Waves do not swell so high as to spoil them. The Sailors go in quest of them along the shore, and where they find the Sand has been thrown up they open it with a stick, where they sometimes find Eggs and sometimes Chickens, which are equally Valuable and Nourishing.

"There is also a sort of Turtle-Dove with gray Feathers on the Back, and white on the Breast, in the midst whereof is a red Spot, like a Wound with the fresh Blood upon it.^d

"The *Colin*^e is a Fowl as big as a Black-Bird, Black and Ash colour'd; without any Feathers on its Head, but instead of it a Crown of Flesh. That is yet stranger which the *Spaniards* call *Paloma-Torcaz*^f; it is of several colors, as Gray, Green, Red and White on the Breast, with the same Spot like a Wound on the Breast; and the Beak and Feet Red. * * * *

"The *Salangan*^g is a strange Bird of the Islands of *Calamianes, Xolo* and others. It is as big as a Swallow, and builds a little Nest on the Rocks over the Sea-shore.

^d *Phlogœnas luzonica* (Scopoli). The plumage is much as described and very striking, the breast spot looking exactly like a blood-stained wound. The genus contains about 30 species of very beautiful ground doves inhabiting the islands of the Australian Region. Five species are found only in the Philippines.

^e *Sarcops calvus* Linnaeus. A peculiar starling, the single species being confined to the Philippines. The word "Colin" or more properly "Coling" is the native name in many parts of the Islands at the present time.

^f The "Paloma-Torcaz" is doubtless *Phlogœnas luzonica* referred to above or possibly some other species of the genus. There is no other genus of dove in the Islands which has this peculiar breast mark.

^g *Salangana francaica* (Gmelin). The author is quite correct in stating that this is one of the edible nest swifts. Seven species have been recorded from the Philippines.

cleaving to the Rocks as the Swallows (p. 455) do to the Wall. These are the so famous Birds Nests, whereof we have spoke in the foregoing Volume^h.

"The *Herrero*ⁱ is a green Bird, as big as a Hen. Nature has furnish'd it with such a large and hard Beak, that it bores the Bodies of Trees to build its Nest. From the Noise it makes at this Work, which is heard at a great distance, the *Spaniards* took occasion to give it this name of *Herrero* or Smith. Others think it was so call'd for an knowledge of an Herb, which lay'd upon Iron breaks it; for it is known by experience that the Hole on (sic) the Tree being cover'd with an iron Plate to save the Young that are in the Nest, it seeks out this Herb, and laying it on the Plate, breaks it, and so clears the way; but I will not vouch for the Truth hereof.

"There is another rare bird call'd *Colo-Colo*^j, little less than an Eagle, Black, and half Fish half Bird, for it equally dives under Water, and flies in the Air. It overtakes any Fish and kills it with its Beak which is half a Yard long. The Feathers are so close that as soon as out of the Water it shakes them dry.

"In the Island of *Calamianes* there are abundance of Peacocks^k. The wild Mountain Cocks^l supply the want of Pheasants and Partridges, and well dress'd and excellently tasted. The Quails^m are half as big as ours, and have a red Beak and Feet.

"In all the Islands at all times there are green Birds call'd *Volanos*ⁿ and severaj sorts of Parrots^o, and white *Cacatuas*^p, which have a Tuft of Feathers on their Head. * * * *

"The *Oydor* or Judge, *D. John Serra*, show'd me another dead Bird that had most beautiful Feathers, as big as a Black-Bird, brought him from the Island of *Borneo*, where it was taken. It had no Feet, but only great Wings to bear it up, and is therefore call'd the Bird of Paradise^q. *F. Combes* in his History of the Island of *Mindanao*, says there are such there."

Manila, P. I.

^h The following is the passage referred to: "The Birds Nests are taken on the Coast of *Cochinchina*, the Islands of *Borneo*, *Calamianes*, and others of the Archipelago of *S. Lazaro*, where they are built upon inaccessible Rocks, by certain Birds like Swallows, so artificially that they are eaten steep'd in warm Water, to take out any Feathers there may be in them. It is not known to this Day, whether they are made from Clay, or of what the Bird fetches from its Stomach; but they are of great nourishment, and taste like the *Italian Vermicelli*." (page 374).

ⁱ I cannot make this out unless it is one of the hornbills (*Bucerotides*). None of them, however, are green and I doubt if they dig their own nesting holes. Five genera are known from the Philippines, three of which are confined to the group, viz: *Hydrocorax*, 3 species; *Gymnocircus*, 1 species; *Pencolopides*, 6 species.

^j *Plotus melanogaster* (Gmelin) probably. The single species found in these Islands ranges over the greater part of the Oriental Region and into Celebes. I have never heard the name "Colo-Colo." The bird is known to the natives as "Casili."

^k None has been recorded from the Calamianes.

^l *Gallus gallus* Linnaeus. The wild chicken, or jungle fowl is common in most of the Islands and abundant in the Calamianes.

^m Four species of quails have been recorded from the Archipelago, all of them minute compared with our American partridges. I know of none with red bill and feet.

ⁿ I don't know the 'Volano.'

^o Four genera of parrots are present in the Philippines. *Prioniturus*, 7 species; *Tanyathus*, 3 species; *Bolbopsittacus*, 3 species; genus peculiar to Philippines; *Loriculus*, 8 species.

^p *Cacatua hematuropygia* (P. L. S. Mueller). *Cacatua* contains 17 species, distributed over the Oriental Region, except the present species which is common in most of the Philippine Islands.

^q These birds were long thought to be without feet as all the early specimens were obtained from nations who cut off the feet. None of this family has ever been found in Mindanao tho the myth that they occur there still persists.



photo taken
Feb 23, 1904.

DR. LEONHARD STEJNEGER

It was concerning one of Dr. Leonhard Stejneger's best known works that Dr. R. Bowdler Sharpe wrote the following: "I must emphatically state my conviction that, with the exception of some of Professor Elliott Coues's essays, there has never been a popular work on birds so well conceived as the 'Aves' volume of the "Standard Natural History," or one which, professedly popular in its aims, contains such an amount of sterling new and original work. It differs, moreover, from most recent schemes in giving diagnostic characters for every Order and Family, and is thus entitled to foremost rank as an original work."^a The same year (1885) that the volume on 'Birds' of the Standard Natural History appeared, Dr. Stejneger's exhaustive treatise on the Birds of the Commander Islands and Kamtschatka was published. Previously the well-known *Analecta Ornithologica* was commenced in *The Auk*, and during the years following, the Review of the Birds of Japan came out in instalments in the Proceedings of the U. S. National Museum; and in the same publication appeared a number of articles on Hawaiian Birds. Dr. Stejneger has been responsible for a very extensive list of papers, many of them on the more difficult phases of ornithological investigation. His work has been characterized by unusual thoroughness and accuracy, and has undoubtedly greatly influenced, at least in America, our present conceptions of the relationships and classification of birds. During the past decade Dr. Stejneger has devoted a large part of his time to herpetology.

^a A Review of Recent Attempts to Classify Birds. By R. Bowdler Sharpe, I. L. D., F. R. S. Budapest, 1891, p. 24.

Nesting of the Western Golden-crowned Kinglet in Western Washington

BY J. H. BOWLES

ON the 19th of May, 1902, my attention was attracted to a dark spot on the under side of a fir limb at an elevation of forty feet above the ground. It was near the top of a young tree about five feet from the trunk, and my disappointment may be better imagined than described when I discovered it to be a ball of moss and feathers, open at the top and containing nine newly hatched young of *Regulus satrapa olivaceus*. This being my first positive breeding record for this bird my oological ambition became centered on securing a nest with eggs, and the season of 1903 was largely devoted to that purpose greatly to the neglect of other much deserving species. Time and again I thought I had succeeded, but only to find the usual cluster of our exceedingly common hanging moss, or at best a decoy nest, for these kinglets are nearly as fond of building extra nests as are so many of the wren family.

To give the readers of THE CONDOR an idea of the difficulties of the undertaking before me, a description of the nesting grounds is necessary. While the kinglets are not particularly rare, the localities where they may be found are the immense stretches of great firs that cover large portions of our dry prairie country. The only intimation, as a rule, of their presence is their faint squealing call-note that comes from somewhere high overhead in the dense foliage, the birds themselves being so small that it is almost an impossibility to get a sight of them. With this discouraging prospect I started in on the present season of 1904, and my reward came most unexpectedly, on the evening of April 25. My brother and I were returning from a successful trip after nests of the Audubon warbler, having taken two handsome sets of four, and were strolling along the edge of a stretch of fir timber several square miles in extent. Kinglets being in my mind as usual, my attention was drawn to a spot among the fir branches which, even in the growing dusk, looked a trifle different from any of the surroundings. It proved to be a most promising looking kinglet nest, but, being twenty feet from the ground and fifteen feet out under an immense branch, making a close examination was impossible. As there were no birds around we decided it was the customary decoy and so left it, but after two days had passed the uncertainty became too much for our nerves and we again visited it, armed this time with a hundred feet of rope. Curiously enough it was impossible to see the nest in the bright sunlight until we were directly under it, so well did it harmonize in coloring with its surroundings, although in the evening it was faintly discernable at a distance of sixty feet. When we arrived within a short distance our hopes rose a trifle to see a small gray object leave the vicinity of the nest and disappear like a flash in the surrounding maze of branches. Climbing up the tree some forty feet above the nest my brother securely fastened one end of the rope, and, coming down to a level with the nest, attached the rope chair and I, on the ground, pulled him out to the nest. Seldom has anything been more welcome to me than when he called down, "It's full of eggs." We stayed around the tree for an hour, during which time the male *Regulus* was extremely shy, but the female after a while became accustomed to us and would return and get into the nest when my brother was within three feet of it. The nest, like all the others I have seen, was most insecurely fastened among the small needle-covered twigs about three inches under the limb. It is an exceedingly bulky structure, considering the size of the bird, measuring externally $3\frac{1}{2}$ inches in depth by 16 inches in circumference. The cavity is small though

rather more shallow than might be expected, being a scant two inches deep by one and three-quarter inches wide. In construction the materials used form a very attractive conglomeration of various kinds of green mosses, feathers and hair, heavily lined with small downy feathers and squirrel and rabbit hair.

The eggs, which are eight in number, are of a subdued cream-white ground color with the faintest suggestion of a cloud of tiny brown spots around the larger end. In measurement there is scarcely any variation, the average being .57 by .43 inches. They were neatly placed in the nest, being arranged in a single layer extending up the sides of the nest so the body of the bird fitted in their midst.

My second occupied nest for this year was found on the third of June in much the same kind of location as the first one. Its large size convinced me that it was not a decoy and, supposing of course the young had long since left, I climbed the



NEST OF WESTERN GOLDEN-CROWNED KINGLET

tree with the purpose of cutting off the limb and securing the nest as a specimen. I had my knife out when the bird suddenly appeared and, on seeing me darted away so quickly that I was only able to see that she held something in her bill. Young ones, thought I in disgust, so left the nest and did not again visit it until June 17, this time again with my brother and the rope in case of an addled egg. As we were making preparations down below one of the birds appeared with a small green worm in its mouth and flew to the nest and stayed there. This convinced us that the nest had contained eggs when I first found it, but there was still the possibility of the addled egg so my brother started up with the rope to make the best of a bad mistake. Such was my annoyance that I threw a dead stick up close to the nest, causing two birds to flutter out of it. I supposed them to be the old one just seen and a full grown young one, so paid no further attention to them being busy with my end of the rope. However it is the unexpected

that often happens and luck was again with us to an unusual extent, for the nest contained nine beautiful eggs varying from fresh to about half incubated. The birds were somewhat more shy than those in the case of the first nest, never coming nearer than six feet but squeaking continually.

This nest closely resembles the first one, but is a trifle larger, measuring sixteen and a half inches in circumference by four inches in depth. The inner dimensions, however, are slightly smaller, measuring one and a half by one and a half inches. It was suspended from the lower side of the branch, most insecurely as usual, fifteen feet from the trunk of the tree and eighteen feet from the ground. The eggs are quite different in coloring from those of the first set, the ground being a perceptible reddish white strongly clouded about the larger ends with fine red-brown dots. Several have a fine line of the same color, as if made with a pen. They are very slightly larger than the first set, measuring .60 by .42 inches.

The only other occupied nest found was situated fifty feet up in a fir tree in the middle of a large grove. In size and construction it is similar to the two above mentioned, but the young had only recently vacated it. Curiously enough they had scarcely damaged it at all.

To try to arrive at any definite conclusions concerning the nesting habits of these birds would be hardly wise, owing to lack of sufficient data, but let us hope to hear from others on the subject. However, it seems extremely likely that my nests with eggs were unusually low ones, the fifty foot one being nearer the average as the birds are almost always high up in the trees. This seems the more probable since both my brother and I had found nests that had fallen to the ground that could not have come from lower than sixty feet, and possibly were built at a much greater height.

That they build a great many decoy nests is beyond a doubt. Indeed I have found two in one tree. I watched a bird working on one of these nests in the middle of July but could find no trace of an occupied nest in the vicinity. These extra nests are built of the same material as the occupied nests, but are not so neat in their construction nor are they so large.

The texture of the egg shell is the most delicate that I have ever seen, not even excepting eggs of the hummers, the drill sinking into the shell at the slightest touch. In spite of such a nerve-destroying process, however, I am happy to say that all seventeen of the eggs are prepared in perfect condition.

I feel positive that two broods are reared in a season, on account of the dates of my nests as well as owing to the fact that old birds with their troops of young may be seen at intervals between the middle of May and the first of July.

Tacoma, Washington.

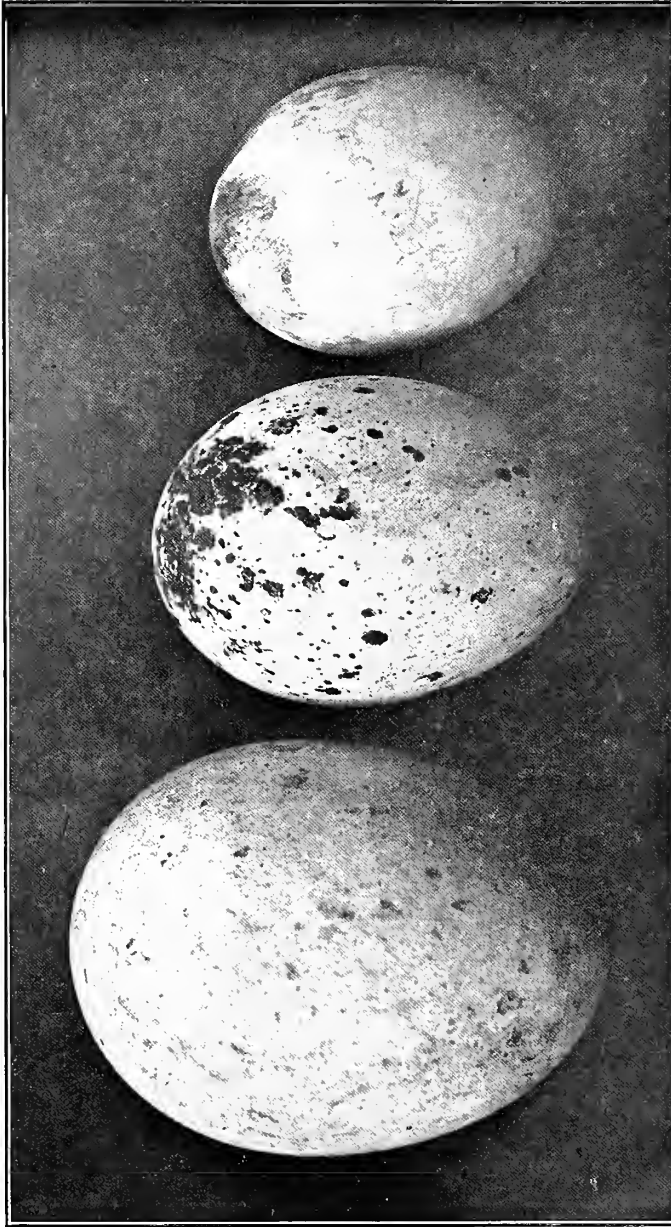
A Set of Abnormally Large Eggs of the Golden Eagle

BY C. S. SHARP

A FEW miles west of the Escondido Valley, and forming one of the outlets to the coast, is a picturesque canyon, officially known, I believe, as Aliso Canyon; locally by every resident within a mile of it and among the unregenerate youth of this place as "Spook" Canyon, from the fact that the spiritualists of Escondido and vicinity hold an annual camp meeting in its groves. Through

it runs the county road and also, in winter, the flood waters of what we are pleased to call the Escondido River.

The canyon is of varying width, in places narrowing down to leave barely room for river and road, and then opens out into pretty bits of pasture with groves



UPPER EGG, WESTERN RED-TAILED HAWK; MIDDLE, AND LOWER,
GOLDEN EAGLE

of live oak, a few small sycamore saplings, and scattered willows along the rocky river bed. In places the river bed itself is almost obscured by tall brush. The hills on either side are high and steep, and are covered with sage, wild lilac, and grease-wood, with occasional clumps of manzanita, very dense and high on the unexposed slopes. Huge rock piles are found here and there, and enormous boulders rise above the brush, becoming near the summit abrupt ledges of varying height.

On one of these ledges, which appears from the road, 200 feet below, to be two or three boulders piled on top of each other, in a corner formed by natural cleavage of the rock, is an old eagle's nest that was last occupied in 1897, when two young birds were taken from it. A few hundred yards below, an immense ledge, forming the whole face of the hill, rises above the brush and trees at about 150 feet above the river, extending upwards for perhaps an equal distance as smooth rock-faces, jutting boulders, and moss-covered terraces, with an extreme length of

about 200 yards. On the lower part of this, and about fifty feet from the bottom, are two nests. One of these nests is above and a little to the left of the other,

and so close that one can nearly reach the upper while standing in the lower nest.

The upper nest is on a projecting spur of rock, and was built in 1902 but never occupied; the lower is in a corner formed by natural cleavage, and it is an immense structure of sticks, grass, Spanish bayonet, and cornstalks—a very old nest, but until this year long unoccupied.

Ever since 1898 I have made three or four trips to these nests each spring at intervals of two or three weeks, but although birds were frequently seen, all my efforts were fruitless until March 12th of this year, when my patience and perseverance had their reward, and I had the very great pleasure of taking from the lower nest of the two a set of eggs which I believe to be the largest eagle's eggs on record. This was the first time eagles (*Aquila chrysaetos*) had nested in the canyon since 1897. It was evident that they were in the vicinity for at least one was near by on every trip that I made, but always high in air and generally to the southward.

My first trip to "Spook" Canyon this year was later than usual. No birds were seen in the vicinity, and the nests appeared as usual. I had carried a big coil of rope up the hill to the first and back again, and had commenced the ascent of the ledge to the others with reluctance, fully prepared for my usual disappointment, but this time the Fates were with me. When I was within a few feet of the lower nest, only separated from it by a projecting ledge of rock which hid it from view, there was a wild flutter of wings, and the biggest and blackest eagle that I ever saw sailed out from almost under my nose and glided away across the canyon. It is quite pleasing to have little surprises like that when one crawling up a slippery, moss-covered ledge, but that sort of surprise did not trouble me much. The eggs were a greater and more interesting one, and in another minute I was sitting in the nest chuckling to myself over my find, and wondering what the eagle would do if she returned. But she left me in peace, and it is perhaps fortunate for some of us that our Aquilan friends do not come back to us at times.

The eggs seemed pretty large to me while I was packing them, but it was not until they were placed beside others of my series that I realized how much beyond the average they were in size. I can find no published record of anything at all approximating them, and measurements that I have been able to obtain of large eggs in the collections of many well-known ornithologists fall far short of their dimensions. Abnormal eggs are not so common even among the smaller birds as to be uninteresting, and among the Raptores they are rare—seemingly less so, however, among the eagles (*Aquila*) for with them one egg much larger than the others in a set is rather frequently met with, but for both eggs to be of abnormal size is rare indeed.

Major Bendire and Mr. Davie give the average size of the egg of the golden eagle as about 2.93 by 2.30 inches. The largest set of which I have been able to obtain measurements out of about 300 sets in the collections of Messrs. C. W. Crandall, J. L. Childs, A. M. Ingersoll, A. W. Jonnson, J. B. Preston, A. E. Price, William Steinbeck, and H. R. Taylor, and in my own series, is a remarkable shaped set in the collection of Mr. A. W. Johnson, taken in Spain, and measuring 3.26 by 2.34, and 3.23 by 2.34 inches respectively. Mr. Johnson also informs me that he has a record of a Scotch taken egg, now in England, measuring 3.26 by 2.55 inches. These three eggs and one in a set of two in Mr. Price's collection measuring 3.23 by 2.44 inches, are the largest eggs I have so far heard of, and they are the only ones that exceed 3.20 inches in length.

Mr. Johnson, whose large series contains besides his California sets, many from Scotland, Spain, Lapland, Bulgaria and other countries, writes me that he finds an egg that measures 3.10 in length very large. Eggs above 3.15 are very except-

ional. I am quite able to agree with him, for in the large series that I have referred to I have found only twenty-two eggs that measured 3.10 or more in length, and of those, fifteen exceeded 3.15, four of these going beyond 3.20 inches. From these data the mammoth proportions of my eggs may perhaps be better appreciated. They measure 3.47 by 2.62, and 3.37 by 2.64 inches. Plain figures, while doubtless plain facts, are less readily digested than a more tangible object lesson, so I have included in a photograph for comparison, a large egg of a western red-tailed hawk, measuring 2.52 by 2.00, an average golden eagle's egg measuring 2.97 by 2.23, and the larger of my large set measuring 3.47 by 2.62. From the photograph and measurements, it will be seen that the large eagle's egg is as much larger than the average as that is larger than a red-tail's egg.

In coloration, as appears in the photograph, the larger egg is the more lightly marked. The markings appear more as ingrained shell markings of faint lavender and umber, giving the egg the appearance of having a very dirty white ground color. There are a few superficial spots and small splashes of a darker shade. The smaller egg is very handsome, the markings being of a much brighter tint, making the ground appear brighter and clearer by contrast. As shown in the photograph, the markings are heavier at the small end. At the large end the markings are all nearly confluent but very faint in shade, and have more the appearance of shell markings. The intermediate blotches and splashes are very bright. In both eggs the shell is very smooth, with few granulations. Incubation had just commenced and was equal in both eggs.

One naturally wonders why there should be so much difference between these eggs and others taken from the same nests and presumably the product of the same birds. A set of two taken from a "series of five" nests occupied by this pair of birds, are about average eggs, measuring 2.97 by 2.23 and 2.93 by 2.24 inches. The larger is the central egg in the photograph. The markings are strongly defined blotches and spots of a dark reddish brown and almost wholly at the larger end, no lavender shade appearing anywhere. The other egg is absolutely unmarked.

The "Spook" Canyon bird was unusually dark seeming almost black, and very large—in fact the largest and blackest eagle I ever saw, and in perfect plumage. I had a good view of her when she left the nest for I was not five feet from her. Then after I had left the nest and was on the ground below not more than fifty feet away she did what no eagle of my acquaintance ever did before, came back to the nest and settled down on it again with head up watching me and making a curious clucking, like the common call of the Cooper hawk, which she repeated a dozen times.

Escondido, California.

An Ornithological Comparison of the Pajaro Valley in California with Sioux County in Nebraska

BY J. S. HUNTER

DURING the summer of 1903 I was located in the Pajaro valley in Santa Cruz county, and it was with great interest that I compared ornithological conditions there with those in Sioux county in northwest Nebraska.

Sioux county is bordered on the north by South Dakota and on the west by

Wyoming. While the region is not mountainous the flora and fauna certainly tend toward mountainous forms. On the whole it is perhaps the most interesting section of the state for bird work. Nearly every summer a party of Nebraska bird people spend some little time there in studying bird life and collecting bird skins. As yet, however, owing to the distance from the center of ornithological activities the region has not been thoroughly worked. With the exception of two weeks in February of 1896 the work done has been confined to late spring and early summer time, thus leaving nearly all of the spring and all of the fall migrations unrecorded. When these and also the winter residents are thoroughly known it is safe to say that the geographical range of many species will be extended and that a number of species will be added to the already large Nebraska list.

The topography of the section is peculiar. Hat Creek valley, which comprises a large part of the county, is bordered on the south and west by high bluffs, and is about one hundred miles across. During the summer it is about as dry and hot a place as one would care to be in. Except along the almost dry water courses there is scarcely any vegetation to be seen. The geological formation in some parts of the valley is much like that of the famous Bad Lands of South Dakota. In the section on the northwest side there is considerable sage-brush and other vegetation. In the dryer parts the common birds are the Say phoebe and the Arkansas kingbird. In the sage-brush section bird life is more numerous; good sized bands of sharp-tailed grouse and an occasional bunch of sage grouse will be seen. Other species, in all about thirty, make their homes there. As we come nearer to the bluffs the entire nature of the country changes; the streams are rather thickly bordered with shrubs and other plants, water flows the year through, and bird life also becomes more abundant. As we follow one of the little creeks into the canyon from which it emerges we are more and more impressed by the entire change of the surroundings. The walls of the canyon tower in places almost perpendicularly 500 feet, and where not too steep they are covered with a scattering growth of yellow pine, the fallen leaves of which cover the ground so thickly that it is exceedingly difficult to climb the side of the canyon. The bottom of the canyon is filled with a dense growth of trees and under-brush, and if it were not for an occasional path, traveling there would be very difficult. The trees are very similar in species to those found throughout the canyon region of the Rocky Mountains and comprise such forms as the quaking asp, juniper, poplar, black birch and many others that need not be listed. After following the many turns of the stream for three or four miles the summit of the bluffs is reached, and again the flora changes. The ground is covered with a thick growth of range grass; no bushes nor trees can be seen except a pine or two at the head of the canyon. Looking backward we see below us the dry, parched, Hat Creek valley extending as far as the eye can see toward the north and in the far distance can be discerned the faint blue line of the Black Hills over a hundred miles away.

By those who know California Coast Range conditions it will be seen that only in respect to the canyons are the two localities similar. The Hat Creek valley corresponds to the fertile Pajaro Valley so famous in the state. The vegetation is entirely different; redwoods replace pines and many other plants are just as different. Climatic conditions are also very different; in Nebraska it is not uncommon for the temperature to drop as low as 40 degrees below zero, in the Pajaro valley 20 degrees above zero is about as cold as it ever gets. But let us look at the bird life.

In this comparison I have included only those birds on which I have secured notes. The California list covers a much longer time than that of Nebraska, from

April 20 to December 1. The list for the former place includes 106 species and for the latter 103. There are 45 species that are common to both regions. These are the mourning dove, turkey vulture, marsh hawk, sharp-shinned hawk, Cooper hawk, Swainson hawk, Ferruginous rough-leg hawk, golden eagle, sparrow hawk, burrowing owl, kingfisher, Cabanis woodpecker, Lewis woodpecker, Red-shafted flicker, dusky poor-will, white-throated swift, Arkansas kingbird, Say phoebe, western wood pewee, common crow, western meadowlark, Bullock oriole, Brewer blackbird, Pine siskin, western lark sparrow, western chipping sparrow, Lincoln sparrow, black-headed grosbeak, lazuli bunting, western tanager, cliff swallow, barn swallow, tree swallow, violet-green swallow, cedar waxwing, western warbling vireo, Cassin vireo, yellow warbler, Toltmie warbler, long-tailed chat, western mockingbird, rock wren, russet-backed thrush, western robin. Some of these are more abundant in one region than in the other. The white-throated swift is one of the most noticeable birds in Sioux county. I saw the bird only once in Santa Cruz county. The numbers of individuals of the species of swallows is greater in Santa Cruz county. Many of the species are found at different times of the year in the two localities. The Say phoebe is one of these, for in Sioux county it is a rather common breeder while in Santa Cruz it is a winter resident. The western tanager, Audubon warbler, western robin, and a few others are birds of this sort. Most of the species spend the winter in Santa Cruz county but only those that are able to resist the severe cold stay in Sioux county. Occasionally however where owing to the constant seepage of water the ground does not freeze the Wilson snipe may be found all winter.

As to species the gallinaceous birds are better represented in Sioux county; the bob-white, prairie sharp-tailed grouse, and sage hen are all found there. None of them are so common as is the California quail in Santa Cruz county. The band-tailed pigeon is not found in Nebraska. Some years it is very common in the Pajaro valley, so I am told, but last year the species was rather rare. The condor, white-tailed kite, duck hawk, barn owl, long-eared owl, and California screech owl were recorded in Santa Cruz county. Some of them undoubtedly occur in Sioux county but were not seen there. The western red-tailed hawk is replaced there by the Krider hawk, and the Pacific horned owl by the western horned owl. The barred owl's characteristic hoot is often heard in Sioux county but not in Santa Cruz. The prairie falcon although occurring in Santa Cruz county was not seen during the summer, in Sioux county. This is due to the fact that the country is thinly settled and the birds have a chance to live undisturbed.

The order Coccoyges is represented by different species in the two localities; in Nebraska there are the yellow and black-billed cuckoo; the road-runner and California cuckoo do not occur there.

One of the most conspicuous woodpeckers in Sioux county is the red-headed, which is replaced in California by the California woodpecker. None of the smaller members of the genus *Dryobates* have been noted in Sioux county, but in Santa Cruz the willow woodpecker is common.

The *Macrochires* are stronger on small species in California and on large species in Nebraska. Two hummingbirds, the Anna and rufous, are common in Santa Cruz county but are not found in Sioux county; neither does the Vaux swift occur there. The nighthawk on the other hand is very common.

The most common flycatcher in Sioux county is the Say phoebe, while the black phoebe is the most common in Santa Cruz. This and the western flycatcher

are California species and do not occur in Sioux county. The Acadian and alder flycatcher are eastern forms that are found there.

The form of the horned lark as would be supposed is different in the two sections, the desert horned lark being the common form in Sioux county and the Mexican horned lark in Santa Cruz.

The yellow-billed magpie of California has much the same habits as its eastern relative the black-billed, but it is not so abundant and consequently seems much wilder. Instead of the harsh call of the California jay or the rattle of the coast jay, in Sioux county the more musical croak of the pinyon jay is heard, while an occasional eastern blue jay is to be seen endeavoring to make the other birds know that he is there to jolly up the hawks and owls. Once in a while a Clarke crow may be seen perched on the top of some tall pine. Rarely also the common crow will be seen winging its way across the canyon in search of better feeding grounds, and although it is quite uncommon in the Pajaro valley, it is more abundant than in Sioux county. That bird parasite, the cowbird, is common in Sioux county, and fortunately for the other birds it is not so in California. The bronzed grackle is an eastern bird without a California relative, but the red-wing of the east is represented by the bicolored black-bird.

The family Fringillidæ is largely represented by different species in the two localities. The Santa Cruz birds are the purple finch, linnet, Arkansas goldfinch, intermediate, Nuttall, and golden-crowned sparrows, Point Pinos junco, Santa Cruz song sparrow, California, and spurred towhees. The Sioux county species are the American goldfinch, McCown longspur, western vesper, Baird, and western grasshopper sparrows, white-winged junco, mountain song sparrow, Arctic towhee, dickcissel, and the lark bunting. It is likely that the intermediate, and golden-crowned sparrows occur in Sioux county during their migrations as they are common further east.

The warblers and vireos are well represented in the two sections; the western warbling vireo, Pacific yellow-throat, and the Calaveras, Townsend, pileolated, and black-throated gray warblers are Santa Cruz species, while the plumbeous, and red-eyed vireos, the western yellow-throat and the Tennessee, and yellow-rumped warblers, and the redstart are Sioux county forms. One of the most interesting variations in the warblers is the fact that the Audubon warbler which is so common a winter resident in the Pajaro valley is a rather common breeder in Sioux county.

The remaining birds that were found in Santa Cruz county were the western martin, California shrike, American pipit, California thrasher, the Vigors, western winter, and tule wrens, California creeper, plain-tit, Barlow chickadee, intermediate wren-tit, bush tit, ruby-crowned kinglet, western gnatcatcher, hermit thrush, varied thrush, and the western bluebird. Those in Sioux county are the white-rumped shrike, brown thrasher, catbird, western house wren, slender-billed nuthatch, Townsend solitaire, wood thrush, eastern robin, eastern bluebird and the mountain bluebird.

The best singers of both regions are found in these last two bunches. Perhaps the best California one is the California thrasher but I do not think that it equals either the brown thrasher, the catbird, or the Townsend solitaire which are all rather common in the Nebraska region.

Berkeley, California.

FROM FIELD AND STUDY

The Texas Kingfisher at New Braunfels, Texas.—While spending a Sunday at Landa's Park, New Braunfels last June I observed a pair of these rare kingfishers (*Ceryle americana septentrionalis*) flying about in search of food. While enjoying a boat ride on the lake, I had a good opportunity to observe them. They were always in sight and were constantly uttering their curious call-note, which somewhat resembles the notes of the common kingfisher. Presently one alighted on a dead pecan tree on the margin of the lake and I cautiously approached so as to get a better view, but before I had gotten within viewing distance it was off, and soon again was seen flying down the lake with its mate. This species is considerably smaller than the common kingfisher and is very rare in this locality except at New Braunfels near the springs in Landa's Park. I have never found this species breeding but I am inclined to believe that it still breeds in Comal county, Texas.—A. E. SCHUTZE, *Austin, Texas.*

The Inca Dove in Central Texas.—On account of the long droughts that have occurred throughout southwest Texas for the past few years, many birds have suffered considerably from scarcity of food and water. For long years the Inca dove (*Scardafella inca*) or Mexican dove, as it is often called, was confined to a region between San Antonio and the Rio Grande and south ward into Mexico. Bexar county was perhaps the northern limit in Texas.

On account of the continued droughts, this dove, as well as many other species of birds moved north and eastward to a country where they found food and water in abundance. In Comal county, especially at New Braunfels, they are now plentiful, where but a few years ago they had never been seen. They are also quite common in Travis county. The first birds that I observed near Austin, were seen in the fall of 1902 when I unexpectedly came upon a flock of five. They were feeding together on the side of a hill and showed no fear at my presence. Only one nest has so far been found north of Comal county. This was found in a small bush in Caldwell county and contained two fresh eggs. Last summer I made several trips to New Braunfels, Comal county where I found this diminutive dove in abundance. They were confined to the city and not a single individual was seen in the immediate vicinity. No nests were discovered, but I was told by a resident that they had nested abundantly the previous spring.

Like the common dove, they are residents. After the breeding season they form small flocks and can usually be found feeding together in a shady ravine or grove. They are rapidly increasing in numbers and probably in a few years they will be as abundant as the common dove. They are slowly moving northward and have also been observed as far east as College Station.—A. E. SCHUTZE, *Austin, Texas.*

Northern Flicker at Auburn, California.—Dr. R. F. Rooney has sent the writer a wing of *Colaptes auratus luteus*. The bird was taken by his son on the outskirts of Auburn, California, October 3, 1904. Dr. Rooney says it is the first specimen he has seen on the Pacific coast during a residence of twenty-seven years. Auburn is a rather southern station although, as stated in Grinnell's check-list, "*auratus*" has been recorded as far south as Warm Springs, San Diego county.—WALTER K. FISHER.

The Destruction of Bird Life by Light Towers.—Hundreds if not thousands of birds lose their lives yearly, by coming in contact with the light towers of the city of Austin. There are thirty-four of these towers, 150 feet in height, built entirely of steel, and held in place by stout wires or iron ropes. At the top of each are suspended six large globes or arc lamps which make a very brilliant light. During the fall and spring migrations the birds encounter a great difficulty when passing over this city at night. They are attracted by the lights from the towers and begin to fly about in great confusion. The light is so strong that when they come within a certain distance they are temporarily blinded at which time so many lose their lives. They begin to fly about in all directions and not being able to see they strike the steel tower with such great force that they fall to the ground, with perhaps a broken wing, crushed body or shattered head. Warblers, sparrows, thrushes and other small birds that fly at night are the principal victims. Ducks, geese, plover and other water fowl suffer considerably. I have often been awakened at night by the screaming geese that had been betrayed by the light. In some instances the birds were so stupefied that they flew around the light for hours in great confusion. During storms the birds are more easily attracted. Martins have also suffered since the towers were erected. When they arrive from the south their first stopping place is invariably the light tower, where after a few days of noisy courtship they begin to build their homes in the suspended globes. The towers are cleaned daily and consequently the nests are destroyed. After the great dam and power house was destroyed at Austin, in April 1900, the towers were neglected for several months. The martins became aware of this fact and many built their nests in the globes. The

birds entered from the top as this was the only opening large enough to admit them. All went well until the young were able to leave the nest. But now how to get out? They had never gone through the upper passage and therefore did not know the route to the outer world. The old birds diligently fed and cared for their broods that were rapidly growing in size, when finally they became aware of their folly and gave up in despair. The young were left to their own fate. The globes in which the nests were situated are transparent and are 150 feet above the ground. The young could see the green world below, hear the twitter of other birds that were flying about and yet they were unable to leave their confinement. The old birds could be seen flying about, in distress throughout the day and unable to give any relief. Now imagine the miserable deaths these poor little creatures met.

After a new power plant had been erected men were ordered to clean the towers and make all necessary repairs. On one occasion I saw an electrician take six full grown young from a single globe, besides many individuals out of the others. This is probably one instance out of a hundred that shows how bird life is affected as civilization advances. The scissor-tailed flycatcher often builds its nest on the cross bars of the towers.—A. E. SCHUTZE, *Austin, Texas.*

MINUTES OF MEETINGS

JULY.—The July meeting was held July 9, at the residence of H. R. Taylor, Alameda. Eleven members and ten visitors were present, and President Taylor occupied the chair. Three new active members were elected, viz., Messrs. Walter Dean, L. Stejneger, and S. F. Rathbun. Communications from Mr. William Brewster and Dr. Jonathan Dwight, Jr. were read, and five persons were proposed for membership, viz., Miss E. F. Kuhls, and Messrs. A. H. Snow, H. C. Oberholser, R. H. Johnson, and C. H. Rose. Mr. W. K. Fisher was appointed chairman of the Information Committee. Mr. Emerson spoke on "The Identification of Birds in the Field," and two papers were also presented one by Mr. Mailliard, "California Jays and Cats," and one by Mrs. Florence Merriam Bailey, "A Dusky Grouse and her Brood in New Mexico." The authors not being present the papers were read by the Secretary and by Mr. Fisher. Meeting adjourned to meet at San Anselmo, Sept. 10, 1904.

SEPTEMBER.—The September meeting was held at the residence of H. H. Sheldon, San Anselmo, Sept. 10. The small attendance was noticeable, only five members and two visitors being present. Mr. Grinnell occupied the chair in the absence of Mr. Taylor. Five new members were elected, as follows: Miss Elsa F. Kuhls, Messrs. A. H. Snow, H. C. Oberholser, R. H. Johnson, and C. H. Rose. Mr. J. Proctor was proposed for membership. Mr. Grinnell addressed the Club regarding the financial condition of THE CONDOR. He informed the Club that it was in a most satisfactory condition, and that the year would close with a small balance on hand. Mr. Johnson's paper "Notes on Unusual Nesting Sites of the Pacific Yellow-throat," was read by Mr. Grinnell, and Mr. Thompson spoke on "The Anatidae of Morro Bay." The Club then adjourned to meet in Oakland, Nov. 5, 1904.

NOVEMBER.—The Club met Nov. 5 at the home of Miss Helen Swett, Oakland. Nineteen members and seven visitors were present, and President Taylor occupied the chair. The order of business was reversed and the program was immediately proceeded to. Mr. Seale gave a most interesting address on the "Birds of the South Seas," and Mr. Taylor read Mr. Silloway's paper "Notes from Flathead 1904." Business was then taken up, and Mr. J. W. Procter, Stanford University, was elected to active membership. The following were proposed for membership: Messrs. H. H. Elbert, Stanford University; P. J. Fair, Palo Alto; W. A. Bryan, Honolulu; E. S. Currier, Tacoma, Washington; C. P. Smith, Palo Alto; and Dr. E. A. Mearns, Washington, D. C.

The following were nominated as officers for 1905: president, Joseph Mailliard; senior vice-president, Miss Helen Swett; junior vice-pres., J. O. Snyder; secretary, Charles S. Thompson; treasurer, Joseph Grinnell.

Mr. Fisher proposed that the January meeting should be held at some restaurant in San Francisco, and the members present voted unanimously that the annual meeting should be held at such restaurant as should be decided upon by the committee appointed for that purpose by Pres. Taylor. The Club approved Mr. Fisher's action in placing the magazines and books of the Club in the Barbara Jordan Ornithological Library at Stanford University.

Adjourned to meet in San Francisco, January 14, 1905.

CHARLES S. THOMPSON, Secretary.

THE CONDOR

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Ornithology

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WALTER K. FISHER, Editor, Palo Alto
JOSEPH GRINNELL, Business Manager and
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NOTES AND NEWS

At the regular meeting held in Oakland, November 5, the following nominations were made for officers for 1905: president, Mr. Joseph Mailliard; first vice-president, Miss Helen Swett; second vice-president, Prof. J. O. Snyder; treasurer and business manager, Mr. Joseph Grinnell; secretary, Mr. Chas. S. Thompson.

With this issue volume six is completed. Club members and subscribers will confer a great favor if they remit their dues or subscriptions promptly to the business manager. We have some plans for further improving THE CONDOR, and any great delay on the part of our constituents in remembering the year-end obligation is a trifle embarrassing—to us at least.

In his review of the July *Auk* in October *Bird-Love*, Dr. J. Dwight, Jr. takes exception to the admittance of 'Baird sparrow' and 'Virginia warbler' to the pages of the *Auk*, instead of the possessive case being used. "Evolution," writes Dr. Dwight, "may some day eliminate the 's' as unfit, but except in geography it is still customary to write English as 'she is wrote.'" Undoubtedly the omission of the possessive form in personal names, given in the sense of dedication, will long remain a matter of personal opinion and preference. Dr. Dwight is in error, however, in supposing that the elimination of the possessive is restricted to geographical names. Some botanists, at least, employed the form before it was introduced into ornithology, and such names as Douglas spruce, Torrey pine, Fraser fir, Jeffrey pine, Parry pinyon, Sargent palm, Bebb willow, Bartram oak, and others *ad libitum* are now in current use. As has often been stated, the sparrow was dedicated to Spencer F. Baird, and the use of his name was never meant to express or imply any proprie-

tary rights over the species or the individuals thereof. If it is proper and natural to omit the possessive form in the case of mountains, rivers, trees and flowers, is it not logical to extend the usage to birds and other animals? It was this fact, and a desire to write English as 'she is wrote,' that influenced this journal to advocate a general adoption of the non-possessive form, shortly after Dr. Merriam introduced it into ornithological literature, in North American Fauna No. 16 (1899). At any rate it is perhaps interesting to consider how differently two persons may interpret the same text.

Through the kindness of Dr. Jordan the Club has been granted the privilege of placing its books and magazines on the shelves of the Barbara Jordan Library of Ornithology at Stanford University. This library, which is dedicated to the memory of Barbara Jordan "who knew and loved the birds," occupies one of the rooms on the first floor of the new Zoology building. The room is perfectly lighted and is provided with numerous working tables, while along one side are the handsomely carved book shelves. In the center of these, above, is a bronze tablet of dedication, with a family of quails in bas-relief. Immediately below is a cabinet containing Barbara Jordan's collection of birds. The room is used by advanced students of ornithology, and is one of the pleasantest in the splendid new building.

The annual meeting, January 14, will be somewhat different from those of former years, in that it will be held in one of the good restaurants of San Francisco. The Club will have a large room to itself and it is hoped that, in view of the occasion and place, a goodly number of our members will make a special effort to attend. We will convene for dinner at 8 and afterwards have the annual meeting and social good time. Probably it will be advisable to have a short business meeting before the dinner. Members will be notified about two or three weeks before the meeting and will be asked to respond whether they intend to be present. The committee earnestly desires that members cooperate to make this "the best meeting yet."

Although all the returns are not yet in it seems probable that the amendment to the Constitution of California, exempting the California Academy of Sciences from taxation, has received a majority of favorable votes.

In volume six there are seventy halftone illustrations which is a substantial gain over forty-three in volume five and thirty-two in volume four. The majority of illustrations during the past year have been such that we can point to them with pardonable pride. But just watch for the January number!

The Twenty-second Congress of the American Ornithologists' Union will convene in Cambridge, Mass., on Tuesday, November 29, 1904, at 10 o'clock A. M. The meetings will be held in the Nash Lecture room, University Museum, Oxford Street.

Mr. William L. Finley has gone east to attend the meeting.

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